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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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BIDS FOR UNPROTECTED CRUISERS.

Bids for the construction of six unprotected cruisers were opened at the Navy Department on November 1 in the presence of a large number of shipbuilding men and steel representatives. These bids were all well within the limit of price authorized by Congress for the ships and no difficulty will be met in making prompt awards. It has been apprehended that owing to the recent advance in the price of steel the bids might be limited and few within the sum allowed the Navy Department, but it was shown that several responsible firms were willing to build the boats for close to a million dollars each and one firm agreed to take two for considerably less. There is little doubt that the awards will be finally made to these firms: Triggs & Co., of Richmond, Va.; the Bath Co.; Lewis Nixon & Co.; the Union Iron Works; the Fall River Engine Co., and Neafie & Levy, of Philadelphia. The Richmond yard would unquestionably receive two boats but for the desire of the department to make a wide distribution of the work. The limit of cost fixed by Congress, exclusive of armament, is \$1,141,000 each and it is provided that not more than two of these vessels shall be built at any one yard. The bids were as follows: Moran, Bro. & Co., Seattle, Wash., one vessel in 30 months, \$1,122,000. Wm. R. Trigg & Co., Richmond, Va., one vessel in 24 months, \$1,027,000. Same company, bidder's plans, one vessel for \$1,044,000, in 24 months, speed guaranteed 18 knots; two vessels, same type, for \$937,000 each. Same company, bidder's plans, one vessel for \$1,073,000, in 24 months; same type, two vessels for \$1,027,000 each. Same company, bidder's plans, guaranteed speed of 19 knots, in 24 months; one vessel for \$1,079,000; two vessels, same type, \$1,039,000.

Fall River Engine Co., Braintree, Mass.; one vessel, on the department's plans, modified, \$1,065,000, 27 months; two vessels, same type, \$1,020,000, one in 25 and the other in 27 months. Same company, bidder's plans, 27 months, speed of 18 knots and bunker capacity of 866 tons, one vessel for \$1,065,000; two vessels of the same type, \$1,020,000 each, delivery in 25 and 27 months, respectively. Same company, bidder's plans, displacement 3,200 tons, speed 18½ knots, one vessel, delivery 27 months, for \$1,100,000; two vessels, same type, each \$1,060,800; one in 25 and the other in 27 months.

Burlee Dry Dock Co., of Port Richmond, Staten Island, N. Y.; for department's plans, one vessel for \$1,105,000, delivery in 30 months.

Neafie & Levy Ship & Engine Building Co., of Philadelphia; department's plans, one vessel for \$1,080,000; two of the same type for \$1,050,000 each; delivery, 30 months.

Townsend & Downey, of New York, one vessel, builder's plans, \$1,059,000, delivery, — months; two for \$1,055,000 each, delivery in 21 and 27 months.

Same bidders; department's plans, one vessel, \$954,500, delivery, 21 months; two vessels, same type, \$950,000 each, delivery, 21 and 27 months.

Columbian Iron Works, of Baltimore; one vessel on the department's plans, \$1,116,000; delivery, 30 months.

Union Iron Works, of San Francisco; one vessel on the department's plans, \$1,041,900; delivery, 30 months.

Bath Iron Works, Bath, Me.; one vessel on department's plans, \$1,041,650; delivery, 30 months.

Lewis Nixon, Elizabethport, N. J.; one vessel, on the department's plans, \$1,039,996; delivery, 30 months.

These were all of the bids received.

DRAINAGE CANAL OPENING.

It is now stated that the opening of the Chicago drainage canal has been postponed from December 1, 1899, to January 1, 1900. A dispatch from Chicago, dated October 30, says:

The trustees of the sanitary district have abandoned December 1 as the date for opening the drainage canal, and have fixed upon January 1. They are convinced that the channel cannot be completed by December, and wish to take no chances on being ready by the time appointed. The attorneys of the board hold that the permit of Secretary Alger will not expire with the assembling of Congress, but will be in force until revoked.

A big excursion down the drainage canal, the new waterway from the Great Lakes to the Mississippi, to include governors, senators, national representatives and federal, state and city officials, is planned by the sanitary district trustees for November 7, and is intended to be the final exhibition of the big ditch before Lake Michigan's waters are turned into it.

SUEZ CANAL REVENUE.

The transit revenue of the Suez Canal Co. in September was £281,600, as compared with £261,200 in September, 1898. The number of vessels which passed through the canal in September was 281, as compared with 270 in September, 1898. The aggregate revenue collected in the first nine months of this year was £2,803,266, roughly estimated at \$14,016,330, as compared with £2,595,447 in September, 1898. The number of vessels which passed through the canal in the first three-quarters of this year, was 2,793, as compared with 2,696.

BRITISH NATURALIZATION.

Sir M. W. Ridley, in answer to Mr. P. A. M'Hugh, said that the ordinary method of naturalization in Great Britain is by a certificate which the Secretary of State has power to grant upon satisfactory proof of compliance with the following conditions: (1) Residence in the United Kingdom or service under the crown for five years out of the last eight; and (2) intention to reside in the United Kingdom or to serve under the crown. A fee of £5 has to be paid, and, before the certificate takes effect, an oath of allegiance must be taken.

"LE YACHT," of Paris, has an article upon the "transformation" of French second-class battleships. It gives the information that the gradual reconstruction programme is the reason why second-class French ships seem to be everlastingly in a state of being tinkered. If a ship has a mast altered this year her engines or boilers will wait till next, her armament till the next again. The American and British systems are to pull the ship to pieces all at once.

THE BRITISH SHIPPING TRADE AND OUTLOOK.

Messrs. H. E. Moss & Co., Liverpool, report the condition of the British shipping trade as follows:

"In our last semi-annual steamship circular we expressed a belief that this would be a satisfactory year for shipping and all kindred trades, and these anticipations have been fully realized. In fact, the views of the most sanguine have been more than fulfilled, and we feel sure that for some considerable time yet the present prosperity in shipping is likely to continue. Our Board of Trade returns prove most conclusively that trade in general is increasing by leaps and bounds every month, and not only is it so with us, but also with continental countries and the United States; and though the amount of tonnage that has been added to the register of late years is large, we must not overlook the fact that after allowing for losses, etc., it is fully justified by the general increase in population, and the development of trade, especially with the far east, that were not before thought of.

The demand for all classes of steamers is still great, and ready vessels especially are being very quickly disposed of at enhanced prices.

Values of new and second-hand tonnage have increased this year at least ten per cent., and those owners whose forethought and enterprise induced them to buy, or contract ahead have realized very handsome profits. We are of the opinion that even higher prices will prevail for some time yet, as shipbuilders, with few exceptions, have sufficient work to keep them going for at least twelve months, and in many cases even longer, and if, therefore, orders for cargo steamers are not being placed so freely as before, we do not think it will very much affect builders' prices. Present prices for building ordinary cargo steamers of say 7,000 tons deadweight, with fair power, average about £8 per ton, or 5,000 tons about £8 10s. to £8 15s., and 3,000 tons £9 to £9 10s.

As we write this the aspect of affairs in the Transvaal is very serious, and war, unfortunately, has been declared against us by the Boers. Many of our manufacturers who deal with South African countries have suffered serious curtailment of their orders, and in the ordinary way we should expect this to reflect upon the prosperity of shipowners as well; but the loss in ordinary freight carrying has been much more than compensated by the large number of vessels, liners and others, which have been taken up by the government for the transport of troops, stores, etc., amounting to over half-a-million tons; thus creating a great demand for tonnage in all directions, not only for purchase but for charter. War with the Transvaal, disastrous as it must be, can only have one ending, namely the predominance of Great Britain in South Africa; and with a return of confidence which such predominance will bring, we anticipate an unexampled boom in South Africa, from which we think the shipping trade will benefit materially, and we hope permanently."

THE use of nickel steel in the construction of steamships is increasing considerably, and Sir William White, in delivering an address recently as president of the American section of the British Association, spoke warmly of the advantages of nickel steel in ship construction. He spoke of the greater strength and rigidity of it as compared with ordinary mill steel. One thing which has operated, and is still operating, against its use for shipbuilding purposes is its high cost as compared with ordinary steel; but its use enables great economies in weight to be attained, and it has been estimated that in an ocean going steamer of 20 knots average speed about 1,000 tons could be saved by the use of nickel steel, instead of ordinary steel, which saving would suffice to raise the average speed something more than a knot, and this without varying the dimensions of the ship.



CHICAGO.

Special Correspondence to The Marine Record.

Wm. E. Fitzgerald, of Milwaukee, was in Chicago Tuesday.

The tug C. M. Charnley, is in the Dunham Towing Co's. dock receiving a new stem.

Capt. John Green of Buffalo, owner of the steamer Lewiston, was in Chicago Tuesday.

The Goodrich Trans. Co.'s sidewheel steamer Sheboygan has gone into winter quarters at Manitowoc.

The tug Lutz, Capt. Charley Roach, and tug Welcome, Capt. Victor Bonnah left here last week for Buffalo.

The schooner Ann Maria left here Tuesday afternoon, in charge of Capt. P. Kelly, formerly master of the steamer Rand.

A new marine leg is being erected at the northwest end of the Central B elevator, which will have an elevating capacity of about 10,000 bushels per hour.

The ferry steamer Richmond sank at her dock in the St. Joseph river Saturday morning. The heavy weather of the past few days caused a seam to open. The life-savers, with a fire engine, are pumping out the water.

At the Chicago Ship Building Co.'s shipyard the steamer Lewiston is in dry dock receiving a new stem and considerable new plank on her bow; the steamer Lehigh is receiving some new plates and repairs to her upper works.

The schooner Kate Lyons, which went ashore near Cat-head Light, has been abandoned to the underwriters. Kehl Brothers, of Northport, Mich., bought the schooner and cargo of 5,500 ties. They will make efforts to release her at once.

The steamer Edward Buckley, Capt. Chas. Greenuch, has had a busy season, so far. Between April 1st and November 1st she made 63 round trips with lumber and salt, from Manistee to Chicago, South Chicago, Benton Harbor and Milwaukee, averaging 9 round trips per month.

Charles E. Hinds, of the firm of E. P. Hinds & Son, owners of the schooner Lake Forest, died at 4:30 o'clock Tuesday morning, of typhoid fever, after only a few days illness. The deceased had a large circle of friends by whom he was greatly respected, and much regret is felt at his unexpected demise.

Six large boats will be built by the Chicago Ship Building Co. during the winter. Each one will be able to carry 7,000 tons, and the longest one will be 454 feet over all. Three concerns—the Minnesota Steamship Co., the Bessemer Steamship Co. and the Carnegie Steel Co.—will be the owners of the boats.

The H. W. Williams Transportation Co. will discontinue their service between South Haven and Chicago this week. They have been very successful the past season and with the Darius Cole, recently purchased from the Star-Cole line, of Detroit, will no doubt give South Haven one of the best services on the east shore next season.

Harbor Master Roberts is serving notice on all owners of docks lying along the river, that they must put same in good repair. The notices are in accordance with the provisions of the city ordinances. It is claimed that the docks in some places are so badly decayed that the channel is in danger of being obstructed by the loose earth that is thus allowed to escape.

Six large boats will be built by the Chicago Ship Building Co. during the winter. Each one will be able to carry 7,000 tons, and the longest one will be 454 feet over all. Three concerns—the Minnesota Steamship Co.—the Bessemer Steamship Co. and the Carnegie Steel Co. will be the owners of the boats. A large force of men will be started on the work in a few days.

The steamer W. P. Ketcham has been bought by Capt. J. S. Dunham for \$50,000, from the Chicago Transit Co. The Ketcham was originally owned by a company comprising many interests, which, as usual, did not agree. A dispute arose at a meeting of the stockholders, which was ended by a proposition from Capt. Dunham to buy out the other stockholders, and this was quickly accepted.

Articles of incorporation of the Penobscot Mining Co. were filed with the register of deeds at Duluth Tuesday. The principal offices of the company are to be at Hibbing, and John A. Redfern is to be superintendent in charge. Those associated with the corporation are: John F. Eddy, Selwyn Eddy, Charles A. Eddy, Charles F. Eddy and Newell A. Eddy, of Bay City, Mich.; the first and third holding 1,250 shares each, the fourth 834 shares and the last 416 shares.

The Lake Seamen's Union have marked up sailors' wages 25 cents per day. The rate is now \$3 for sailing vessels and \$2.75 for barges. This is the fifth advance this season. Last

summer the rate was \$1.50. In rapid succession it has been marked to \$1.75, \$2, \$2.25, \$2.75, and now to \$3. The advance is due to the extra peril and labor resulting from the heavy weather encountered in the fall months. The vessel owners have met every advance in wages by an equal advance in freight rates.

The entire beach at St. Joseph, extending for two miles, is being strewn with lumber. As the lumber is new and mostly 2 by 4, the general opinion among marine circles is that some schooner sailing from a northern point, has been wrecked during the recent gale. Reports were received yesterday evening that the beach fronting Bridgeman, twelve miles south of St. Joseph, was covered with lumber and wreckage. A large portion of the wreckage is painted green and is thought to be the bulwarks of the schooner William Dunham, which was wrecked off Frankfort, Mich., during the gale of Wednesday.

It is not learned that any of the people on board the schooner yacht Chiquita, wrecked off Miller, Ind., were saved. There were three in the party, D. S. Way, his wife and Rolin Frazine. They all resided in Charlevoix, Mich. The yacht was bound to Florida by way of Chicago, the canal, the river and the gulf of Mexico. On arrival at Chicago the party was to have been joined by young Frazine's father from Charlevoix, and the four were to start on a long winter cruise to the tropics. Way leaves an adopted daughter, twelve years of age, at Charlevoix. The yacht left Charlevoix early last week and followed the east shore southward. She put into Holland and sailed from there Saturday for Chicago, but met with heavy weather and was driven ashore.

A report has been sent out from here this week stating that "a movement has been started to obtain Federal help in improving the Erie canal. It is argued that the national government is spending millions on the Mississippi river and not a cent on the Erie canal, although the relative importance of the canal is far ahead of the river. Canada is already in the lead of the United States in the matter of waterways to the sea and is rapidly building up a fine marine business, all of which formerly belonged to American vessels." The Erie canal is a State waterway, and as such, it is difficult to see how the Federal government can grant money for the improvement however much it may be needed. The New York legislature is the body that should attend to this matter, and, I should say that they are doing so as it is one of the uppermost questions before Governor Roosevelt.

Capt. John C. Pereue, master and owner of the steamer J. D. Marshall, states that she has not been sold to the Hines Lumber Co. The steamer Lewiston, Capt. Chas. S. Furey, and the Anchor Line steamer Lehigh, Capt. J. H. Beron, collided Friday evening just outside of the Government breakwater. The Lewiston loaded with 140,000 bushels of oats for Buffalo, was running back to Chicago in consequence of bad weather and heavy seas, when she met the Lehigh partly loaded with merchandise bound for Milwaukee. Signals were given by the masters of both steamers, but there was some misunderstanding, and the Lewiston crashed into the starboard quarter of the Lehigh, stem on. The wooden upper works and two plates in the hull of the Lehigh were badly damaged as was also the stem and bow of the Lewiston. Both boats came back into port and on Saturday, they went to the Chicago Ship Building Co's. ship yard for repairs.

Some surprise is expressed in local marine circles at the attitude of the authorities who removed assistant inspector of boilers Thomas Kehoe, and assistant inspector of hulls James Hogan, on Nov. 1, on the score of economy in the Department, and because of an alleged falling off of the number of vessels in this port. It transpires that the department is now bringing a man here from Milwaukee to do the work of one of the discharged men, and is also bringing another from Cleveland to teach him his duties. Investigation also develops that the claim that there had been a large falling off in the number of vessels here is unfounded. For the fiscal year ending July 1 last, there were 229 boats examined here, as against 230 for the same period of the year before. In the year ending July 1, 1897, the total was 237 boats. There is every indication that the season will end with a large number of coal boats tied up here, and that additional help in the inspection of vessels will be required in the spring. Marine interests are not taking kindly to the prospect of delays, and the annoyances incident to the placing of new men in charge here. In addition to the inspection of all the steel plates entering into the construction of boilers for steamers and for use on all government buildings, the local inspectors must guard the traveling public against overloading of the passenger boats, and see also that each are provided with the proper life-saving appliances and other safeguards. In view of the fact that there was not the slightest accident to a single passenger out of Chicago last season, despite the largest lake excursion business in the city's history, it would seem that the record of the discharged men was certainly worthy of better treatment, particularly as both were laid off at a season of the year when neither could resume his old duties as engineer or master of vessels. The discharged men stand high personally with marine interests, and their friends have started out to see that the removals "with no complaints and no prejudice" are as stated in the order.

THE next vessel to be launched from a lake shipyard will be the 6,000-ton steamer which the Detroit Ship Building Co. has under way at its Wyandotte yard for Senator McMillan and others, and which will be managed by Mr. A. McVittie.

BUFFALO.

Special Correspondence to The Marine Record.

Coal is being shipped at the rate of ten to twelve thousand tons a day.

Mr. Howard H. Baker has purchased the small steam-yacht Ella.

The steamer Ed. Smith No. 1, has been sold to White, Rider & Foster, of Tonawanda. The price was not given out.

Many vessels are leaving port with just fuel enough aboard to carry them to the next convenient coal dock, this is a very remarkable feature to report from Buffalo.

With the competition in towing at this port the tug men ask for better pay, and, as one line pays from \$10 to \$15 per month better than the other, it is likely that the wages will be advanced.

Maytham's Towing and Wrecking Co. now occupy its new quarters at the foot of Washington street. A telephone system has been put in and the new concern is ready for business at the dock office.

There has been considerable detention experienced this week at the grain elevators, but when nearly two million bushels reaches here in one day, as it did on Monday, boats are likely to be somewhat delayed.

The Maytham Towing and Wrecking Co. is receiving all the patronage that they can attend to with a fleet of three tugs, and there is some talk this week of other tugs being chartered for the balance of the season.

Capt. M. C. Fisk, who held the office of local shipping master for the Lake Carriers' Association, has resigned and Edward Nesbitt has been appointed to fill the position. Capt. Fisk, because of failing health, will go west to recuperate.

Heavy fogs along the chain of lakes seems to be holding vessels back, especially in the rivers. So far as grain cargoes are concerned, and that is our chief staple, a little detention in arrivals is just as well, the vessels might as well be at anchor, as held up here waiting to be discharged at elevators.

Tonawanda owners of lumber carriers are more than pleased at the season's showing, and, while there is a trip or two yet to be made they are well satisfied with the earnings of their craft. It is also generally acknowledged that the next three seasons at least will show just as satisfactory results.

The many friends and old shipmates of Capt. Delos Waite, recently in charge of the North Wind, will be sorry to learn that he died on Wednesday, at his home in Sheridan, N. Y. Capt. Waite was generally well liked, he had a happy, genial temperament and made friends at every port he visited. There are not many masters on the lakes better thought of all round than Capt. Waite was.

One of the largest cargoes of grain ever received at Buffalo arrived this week on the steamer H. W. Oliver, owned by the Wilson Transit Co., of Cleveland. She brought 236,000 bushels of wheat, and it is said the shippers paid to the owners of the boat \$11,210 for carrying the cargo. This is the first trip the Oliver has made to Buffalo, and her large cargo, as well as her fine appearance, is generally mentioned along the docks.

The local inspectors have suspended the license of Capt. Ed. Cunningham for a period of 30 days, for violating pilot-rules. It is said that Capt. Cunningham will appeal from the decision, in the meantime his late Mate J. C. Bell will take charge of the New Orleans. It may be said that Capt. Cunningham has been in command of the steamer New Orleans for several years and that he has been markedly successful during his lake service.

Freight rates ruled all week as follows: Milwaukee, \$1; Chicago, \$1; Duluth, 60 cents; Toledo, 50 cents; Manistique, \$1; Hancock, 75 cents; Gladstone, 60 cents; Cheboygan, \$1; Bay City, 50 cents. There is a report that the Duluth rate is down to 50 cents, but brokers will not admit it, although it is not denied that the Lake Superior rate is weak. Lake shipments to the first of November are 2,318,927 tons; for 1898 to date, 1,973,755 tons, and for 1897 to date, 1,619,614 tons. The shipment for the past month was 455,177 tons; October, 1898, 324,640 tons.

The Western Elevating Association of Buffalo has issued a card of rates for elevating and storage at Buffalo for this season and for 1900 on all sound grain received from Oct. 31 until further notice. The charges are as follows: For elevating including 10 days storage, to April, 1900, per bushel, ½ cent. For storing each succeeding 10 days, or parts thereof, to Dec. 1 next, per bushel, ¼ cent. Arrangements for storage after Dec. 1, 1899, whether on grain already in store, or on grain elevated after that date, must be made with the elevator storing the grain. All accrued elevating and storing on grain remaining in the store on April 1, in each year, must be paid on that date on or before 10 days after the opening of canal navigation following, under the penalty of ½ cent per bushel additional storage, if not so paid on that date.

J. W. BOYNTON, president of the Central Michigan railroad, whose proposition to erect terminals in the city of Milwaukee, provided the business men of Milwaukee subscribe \$500,000 for the first mortgage bonds of the railroad, is looking for terminal sites for the car-ferries and passenger boats, which the company proposes to run across the lake. Mr. Boynton says he has an option on a block just south of the Northwestern passenger station, and is trying to secure an option on a block west of the station.

CLEVELAND.

Special Correspondence to The Marine Record.

Coal shipments have been very slow this week on account of the railroads being short of cars to bring the coal forward.

The steel steamer Porto Rico, built and fitted out at the Craig Ship Building Co., Toledo, was cleared for New York via the Welland and St. Lawrence system of canals.

A prominent and well known local vesselowner narrowly escaped a severe accident a few mornings ago when stepping off a street car while it was in motion, another warning for all hands to be more careful.

With a fleet of 57 vessels the Bessemer Steamship Co. will carry an enormous amount of cargo next season, 15 large steamers, 12 tow barges and the entire fleet of whalebacks is quite a raft of tonnage to handle.

The little steamer Pease, Capt. Moore, is in trouble again, this time she is on the bottom in the Minnesota slip at Ashtabula where she fetched up on Sunday. As she blocked the slip every assistance has been given to float her for dry docking and repairs.

The shipments of iron ore for October amounted to 2,543,859 tons. During the same month last year it was 1,551,000 tons. An increase of a million tons in one month is no small feature, and yet there is not enough ore in sight to fill orders or satisfy demands.

Capt. James Corrigan has purchased the steamer Robert Wallace from Robert Wallace, of Lorain, and others, for \$40,000. Mr. Wallace has now disposed of his vessel property. He sold the steamers Vega and Vulcan to Drake & Maytham, of Buffalo, and the schooner David Wallace is on the coast.

The small schooner Rival, with coal from this port to Detroit, foundered off Monroe, Mich., and her crew was picked up by a fishing tug. The Rival was owned by Charles Hernes, of Cleveland, and was in charge of Capt. J. Hernes. The vessel is in shoal water and will be easily floated again.

The D. & C. line have an excellent paying route. They have worked it up and know all about it. This fact does not prevent, but rather courts the attention of capitalists and again is heard the rumor of competition between this port and Detroit next season. It is said that the D. & C. might compromise on carrying cargo if a new line would agree not to enter into competition in the passenger trade.

Col. Jared A. Smith, Corps of Engineers, U. S. A., in charge of the waterways in this district, is anxious to get three wrecked schooners out of the way before the end of the season of navigation. One of them is the H. G. Cleveland, sunk off Rocky river; another is the Laura Miller, in the straight channel to the entrance of Maumee Bay; and the third is the Onward, abandoned in the harbor of Port Clinton.

The story going the rounds of the lakes that Capt. John Moore is ready to dispose of his interests is a good deal of a fabrication. Capt. John has floated too long to let go now, or perhaps, for a few years hence. After the Carnegie and Rockefeller interests rule supreme and control every timber head of floating property on the lakes, also the stuff they carry, Capt. Moore may retire, if not shortly before that time, but he is strictly in it under ruling conditions and the future outlook.

Capt. William Wilkes, one of Cleveland's oldest citizens, died on Monday, aged 76 years. He was born at Sackett's Harbor, N. Y., Feb. 12, 1820, and spent most of his life as captain on the lakes. He was a descendant of Commodore Wilkes, of the English Navy. Capt. Wilkes came to this city in 1852, when Cleveland was in its pioneer days. He leaves two sons and a daughter. The funeral was held on Wednesday afternoon from the residence of his daughter, Mrs. Dodge, No. 11 Hower avenue.

Capt. C. E. Benham, deputy collector of customs at this port, says that the scow Mary Amelia, which was sunk at the head of Lake Erie, and had been found an obstruction to navigation, has been towed around Bar Point into shallow water, where she is no longer a menace to navigation. Capt. Benham sent out the above notice in advance of the Hydrographic Office, the Light-House Board or the district officer of the Corps of Engineers, U. S. A., and is consequently entitled to credit for the promptness of his information to all concerned in the navigation of that locality.

The two barges which the Bessemer Steamship Co. will convert into steamers this winter are to be given the very best equipment. Regarding the machinery I learn this week that the forgings to be used in the engines will be made by the Bethlehem Steel Co., of hollow forged, high grade steel, oil tempered and annealed. The work of transforming the vessels will, of course, be done by the American Ship Building Co., thus giving the Bessemer Co. three new steamers next season instead of one. The barges are under construction at South Chicago and West Superior, and it is likely that the work of construction is not too far ahead to make any radical changes in the plans. The steamer contract was placed here and the hull is now well under way.

THE light-house keeper at Menominee has received orders to keep the lights exhibited all winter on account of the Ann Arbor car ferries. The ice crusher Algoma will keep the channel through the bay open. The month of October shows a record at Menominee of the arrival of 117 vessels, carrying away 40,000,000 feet of lumber.

DULUTH-SUPERIOR.

Special Correspondence to The Marine Record.

Reports from the Sault give assurance that the business of the canals will reach the 15,000,000 tons mark for this year.

Contractors King & Steele are taking advantage of the fine weather to push work on the construction of the sub-structure of the southerly pier of the Duluth ship canal. The work of constructing the last crib is in progress and 13 cribs have been sunk in position.

Although the war in the Transvaal is remote, yet its effect on lake commerce is felt on the Montreal route. If it had not been for the war in the Transvaal, the steamer Arthur Orr would not have loaded ore in Duluth on her last trip, but would have taken grain to Parry Sound. It is said that the British government has chartered so many of the regular boats running between Montreal and Liverpool, on account of the war, that the shippers of grain via Montreal are booking their stuff by other routes, and business has fallen off.

It is said that the cost of releasing the steamer Harlem was about \$30,000. The Thompson Wrecking Company paid the underwriters \$30,000 for the boat just as she lay on the rocks at Isle Royale, so that she represents an outlay, if the report concerning the cost of releasing the boat is correct, of \$60,000. As vessel property is now selling at fancy prices vesselmen say that it is plain the purchase of the Harlem will prove a good speculation. It is said that the profit of the Harlem will not be less than \$50,000, and perhaps a great deal more.

One of the notable features of the opening of the Canadian waterway with its 14 feet of water from Duluth and Superior to Montreal is that American vesselmen are getting in on the ground floor to share in their newly deepened highway of commerce. Capt. A. B. Wolvin is interested in a syndicate that is building boats for this route and Captain Alexander McDougall, also of this city, will be a big factor in a new company that will build a line of steel boats at Collingwood, Ont., which will operate in close business relationship with one of the ocean lines at Montreal.

While some authorities express the opinion that 20,000,000 tons of iron ore will not be sent forward from Lake Superior next season, some of the leading Duluth authorities rather expect that the amount is not far from the actual figures to be realized. Joseph Sellwood, who is regarded as one of the best posted ore men in the mining region, says that he will not be surprised if the 20,000,000 tons notch is touched next year. He estimates the output for next year by ranges as follows: Mesaba, 7,750,000 tons; Vermilion, 2,000,000 tons; Gogebic, 2,750,000 tons; Menominee, 3,750,000 tons; Marquette, 3,750,000 tons.

The steamer Republic narrowly escaped the fate of the Western Reserve in the gale last week off Keweenaw Point. Like the Western Reserve the Republic was bound up Lake Superior, light. The pounding of the heavy seas strained her amidships, and her shear strake and decks began to crack. She reached Duluth and went into drydock, where it was ascertained that four plates would have to be removed amidships, as they are all badly cracked. It will take several days to make repairs. Not half of these casualties are reported, though I don't know for what reason. Only about a month ago a new steel steamer buckled up her decks, cracked beams and hatch coamings, and showed a horrible condition of structural weakness throughout. The RECORD should report more of these cases, as they occur from time to time, if only for the sake of humanity.

DETROIT.

Special Correspondence to The Marine Record.

Owing to a fresh southwest wind the water shoaled eighteen inches at the Limekiln Crossing last Saturday and detained a number of boats.

The schooner Mongaugon reached here on Sunday, with the loss of her bowsprit, also her fore and main masts, the spars were carried away in a squall on Lake Erie.

Messrs. A. A. & B. W. Parker purchased the handsome steam yacht Lily, this week, and will use her next season between their summer residence at Grande Pointe and this city.

The story that the steamer State of Michigan was libeled here this week for labor pay in handling freight was all wrong. Some of the men wanted more money than was due them, or rather to be paid in advance, however, Capt. McCullagh soon straightened the matter up.

Mr. Frank E. Kirby has the plans well in hand for a new fire boat. The new fire fighter is to be larger than the present one, and to be built of steel. She will also be given more powerful pumps and in every respect is to be far ahead of the Detroit. It is said that the Detroit Ship Building Co. will be awarded the contract, on the other hand it is safe to say that the city will advertise for bids on construction and equipment.

There was quite a little excitement at Port Huron when the steel steamer Harlem reached there on Monday, she will be dry-docked at Dunford & Alverson's, instead of coming here, as was reported last week. Capt. Washington Harrow, who had charge of the wrecking operations, is receiving a great deal of credit for his work in floating the large hull and bringing her down from Lake Superior with only one 9-inch pump working.

FLOTSAM, JETSAM AND LAGAN.

The longest dry dock in the world, which will accommodate two of the largest warships in the world at one time and have room to spare, will soon be completed at Newport News, Va.

The old steamer Maine, recently rebuilt and now owned by William Avery and others of Detroit, is given a valuation of \$18,000 and A2 rating in the November supplement to the Inland Lloyds Register.

The stage of the water for October at the head of the lakes averages 1.86 feet above low water datum, as compared with 1.94 feet for September. The waters have begun to recede as is customary at this time of the year.

Capt. Charles Maytham, of Buffalo, has an option on the tug Mason, of Port Huron, and it is expected that she will leave to join her new tug line at any time. It is said he also has options on the tugs George D. Naw and Parkhurst.

The report that Carnegie-Oliver interests had an option on all the berths of the American Ship Building Co. that may become vacant up to May 1, is denied. "If it were true, a million of dollars could be raised in two days." It is declared, "for the establishment of a competing yard."

Now it is the Minnesota Steamship Co.'s new steel barge Manila that holds the record for the largest cargo ever moved on the Great Lakes. She has just delivered at South Chicago from Two Harbors on even eighteen-foot draught a cargo of 7,479 gross tons or 8,376 net tons. These are actual weights which are 1 per cent. above bill of lading figures.

Buffalo coal shipments last week aggregated 76,860 tons, distributed as follows: Milwaukee, 25,100 tons; Chicago, 22,500 tons; Duluth-Superior, 17,300 tons; Toledo, 3,200 tons; Manistique, 2,010 tons; Hancock, 2,000 tons; Depot Harbor, 1,100 tons; Gladstone, 1,000 tons; Cheboygan, 1,000 tons; Lake Linden, 750 tons; Houghton, 600 tons, and Bay City, 300 tons.

By the apparatus of d'Asar, an Italian, the movement of a steamboat's propeller is detected at a distance of six miles. Two sets of several telephone transmitters are sunk to a depth of two or three fathoms, the instruments pointing in different directions and being connected to receivers on board. The direction from which the sound comes loudest indicates the position of the vessel.

An electric foghorn is about being completed which is operated by a naphtha engine that furnishes the electrical current to operate three pairs of electro magnets, which in turn operate half a dozen clappers, that strike against a large gong, 36,000 strokes per minute. At a recent test the sound from this horn was distinctly heard two miles and the machine is being built to warn mariners of danger at a distance of 15 miles.

Prof. W. H. M. Christie, director of the royal observatory at Greenwich, says that the new century begins on January 1, 1901, for it has been generally agreed to call the first year of the Christian era Anno Domini 1, not A. D. 0, and consequently the second century begins with A. D. 101, 100 years after the beginning of the first year, and so on for the succeeding centuries. The question was fully discussed at the century dinner at Glasgow on April 15, 1870, when the lord dean of the guild, after quoting various authorities, gave his decision as arbiter that the nineteenth century did not commence till January 1, 1801.

The man who deserts old friends when the tide seems to be setting against them, forgets that tides in the affairs of men are almost as certain to turn as the tides of the sea. Many a one has sacrificed his best friend for the sake of what he regarded as policy, only to find in later years that he has given up something which he can never replace, and inflicted an injury upon himself which he can never repair. A true, loyal, helpful friend is a treasure whose value cannot be expressed in words or measured in gold. He who abandons such a friend in what he regards as his hour of need possesses all the characteristics of a hypocrite, traitor and coward.—Bangor, Me., Industrial Journal.

Capt. J. H. Rogers, inspector of the life-saving service, has just completed a month's tour among the stations in the tenth district, which includes Lake Huron and Superior. He says that everything is in first-class order and that from this time on there will be especial vigilance. He has given such orders because of the fact that high freights have brought into service on the lakes every old tub able to float in smooth water, and if any of these are caught out in the November gales they will break up to a certainty. A number of guns for shooting lines to vessels have been put in the stations to replace those whose range has fallen below the standard, by reason of long service. It takes over 300 miles of driving by buckboard or carriage to make one tour of inspection to the seventeen stations of the tenth district.

About a month ago the steamer W. P. Ketcham ran into and sank the schooner Typo and, as a result of the collision, two deaths occurred. Within the next few days, Attorney Ralph Holbrook, Esq., Toledo, will bring suit in the United States District Court for damages. He will represent relatives of one of the men whose lives were lost on Lake Michigan and the action will be filed against the owners of the Ketcham, which belonged to the Chicago Transit Co., and was sold last Friday to Capt. Dunham, of Chicago, for \$50,000. Considerable interest is being aroused in legal circles over the affair, as it is the first suit of its kind to be brought in many years. Under the English common law, it is a usual occurrence to collect damages for accidents and collisions occurring on the high sea, but the custom has not been enforced in this country.

CANADIAN IRON ORE.

Pittsburg, the leading iron center of the United States, gets nearly all its iron ore from the mines near Lake Superior, and the ore has to be carried first by rail, then by water, and again by rail for about a thousand miles, involving three handlings, before it reaches the blast furnaces, while the ore to be used by the Dominion Iron and Steel Company in the blast furnaces at Sydney, N. S., will come from the Great Bell Island mine in Conception Bay, Newfoundland, about 400 miles distant from Sydney, and will only have to be handled once, being loaded at the mine upon large ships that will lay it down at the pier of the company right beside the blast furnaces.

Mr. R. E. Chambers, M. E., the manager of this remarkable mine, in a recent interview, states some facts and makes some suggestions that bear strongly upon the possibilities of the cheap manufacture of iron in Canada. He says that the ore of Great Bell Island can be mined and loaded on ships for from twenty-five to thirty cents per ton. This is not a matter of conjecture, but of actual experience, extending over several years, in which 600,000 tons of ore have been mined and shipped. No royalty has to be paid. Some idea of the freight rate from Great Bell Island to Sydney, a distance of about 400 miles, can be obtained from the freight rates on the ores shipped from Lake Superior ports to Ohio ports, a much longer distance. The average rate during 1898 on iron ore shipped from Escanaba to Ohio ports, was 50.8c; from Marquette to Ohio ports, 59.8c; head of Lake Superior to Ohio ports, 61c. The average rate during the past ten years has been: From Escanaba, 67c; from Marquette, 83c; from the head of Lake Superior, 94c. During recent years the rates have been lowered owing to the increased size of the boats navigating the upper lakes. Most of the ore from Lake Superior was brought down to Lake Erie ports last year in the large 6,000-ton ships which were put in commission in 1897. It was found that the smaller boats could not compete with them.

The distance from Great Bell Island to Sydney being much shorter and through much deeper waters without any canals to go through, or any tortuous, narrow channels to navigate, larger cargoes could be carried and better time could be made, so that the freight rate on ore should be lower. It may, therefore, be assumed that the cost of laying down ore at the Sydney blast furnaces, including mining, loading, shipping and unloading will not exceed one dollar per ton, and it may be considerably less. Compare this with the cost of ore in other places. At Cleveland, according to The Mineral Industry, the prices fixed last year were as follows: Hematite ores, Bessemer quality, \$2.55 to \$3.25; hematite ores, non-Bessemer quality, \$2.10 to \$2.25. The annual statistical report of the American Iron and Steel Association gives the prices at which sales were made early in 1899 for season delivery, at Cleveland as follows: No. 1 Bessemer hematites, \$2.80 to \$3.25; soft hematites, No. 1, non-Bessemer, \$2 to \$2.15. From Cleveland to Pittsburg the iron ore has to be carried by rail and the freight rate on ore must be added.

The Statesman's Year Book, says that in the year 1897 the United Kingdom imported 5,968,680 tons of iron ore, the value of which was £4,436,004, that is, 14s. 10d. per ton, equal to about \$3.60 per ton in Canadian money. From 1893 to 1897 inclusive, 24,336,814 tons were imported, and the value was £16,963,370, that is, 14s. per ton, equal to about \$3.40 per ton in Canadian money. At the present time Spanish hematite ores laid down in Glasgow are selling at from 15s. to 17s. per ton, that is, from \$3.95 to \$4.15 per ton. The Iron and Coal Trades Review, published in London, Eng., in its issue of September 1, 1899, states that the price of hematite ore at the mines on the west coast of England on August 31 was 16s., equal to \$3.90.

The Nova Scotia Steel Co. has been selling Great Bell Island ore in Rotterdam at a price which amounted to \$1.15 per ton at the mine, after deducting the cost of transportation, giving them a profit of 85 or 90 cents per ton, and it is said that the Dominion Iron and Steel Co. have assurances that they can sell ore in Rotterdam for delivery next year at from 15 to 16 marks per ton, which would give them from \$1.65 to \$1.90 at the mine, after paying the cost of mining and transportation, making the profit on every ton of ore mined for export from \$1.35 to \$1.60.

The iron ore supplies of Great Britain, Germany and other iron manufacturing countries of Europe are rapidly becoming exhausted. Great Britain has for years been drawing supplies from Spain and other outside countries.

SUMMARY SHOWING THE NUMBER OF VESSELS IN THE UNITED STATES NAVY.

REGULAR NAVY.

First-class battle ships, 12; first-class battle ships sheathed, 3; second-class battle ship, 1; armored cruisers, 2; armored cruisers sheathed, 3; armored ram, 1; steel single-turret monitors, 4; double-turreted monitors, 6; iron single-turret monitors, 9; protected cruisers, 13; protected cruisers sheathed, 8; unprotected cruisers, 4; gunboats, 12; light-draft gunboats, 3; composite gunboats, 6; training ship (Naval Academy), 1; special class, 2; gunboats under 500 tons, 19; torpedo-boat destroyers, 16; steel torpedo boats, 36; submarine torpedo boat, 1; wooden torpedo boat, 1; iron cruising vessels, 5; wooden cruising vessels, 7; sailing vessels, wooden, 6; tugs, 17; wooden steam vessels unfit for sea service, 11; wooden sailing vessels unfit for sea service, 6; total number of vessels in regular navy, 215.

SUMMARY SHOWING THE NUMBER OF VESSELS IN THE UNITED STATES NAVY.

AUXILIARY NAVY.

Merchant vessels converted into auxiliary cruisers, 7; converted yachts, 25; converted tugs, 27; steamers converted into colliers, 17; special class, 12; total number of vessels in auxiliary navy, 88; grand total, 303.

TRAFFIC THROUGH THE ST. MARY'S FALLS CANALS.

STATISTICAL REPORT OF LAKE COMMERCE THROUGH CANALS AT SAULT STE. MARIE, MICHIGAN AND ONTARIO, FOR THE MONTH OF OCTOBER, 1899.

EAST BOUND.

ITEMS.	U. S. Canal.	Canadian Canal.	Total.
Copper, net tons.....	18,120	770	18,890
Grain, bushels.....	5,470,111	306,000	5,776,111
Building stone, net tons.....	9,308		9,308
Flour, barrels.....	967,622	94,770	1,062,392
Iron ore, net tons.....	1,933,058	278,725	2,211,783
Iron, pig, net tons.....	1,120		1,120
Lumber, M. ft. B. M.....	173,271	1,848	175,119
Silver ore, net tons.....			
Wheat, bushels.....	6,925,788	2,851,303	9,777,091
Unclassified freight, net tons.....	7,585	2,155	9,740
Passengers, number.....	547	482	1,029

WEST BOUND.

ITEMS.	U. S. Canal.	Canadian Canal.	Total.
Coal (hard), net tons.....	110,765	15,911	126,676
Coal (soft), net tons.....	355,595	75,139	430,734
Flour, barrels.....	350		350
Grain, bushels.....	3,000		3,000
Manufactured iron, net tons.....	24,744	5	24,749
Salt, barrels.....	37,687	640	38,327
Unclassified freight, net tons.....	68,564	8,406	76,970
Passengers, number.....	485	397	882

East bound freight, net tons..... 3,095,644
West bound freight, net tons..... 664,957

Total..... 3,760,601
Total craft through United States canal..... 2,480
Total craft through Canadian canal..... 464

Total registered tonnage through U. S. canal..... 2,823,978
Total registered tonnage through Canadian canal..... 454,068
3,278,046

THE ALUMINUM INDUSTRY.

It is a difficult matter to comprehend the magnitude and vastness of the field of the aluminum industry. The very best authorities on aluminum claim that within a few years, or when the supply will meet the demand, 5,000,000 tons of aluminum will be consumed annually. With the growing demand and rise in price of copper, and the largely increased demand for metal suitable for electrical, naval and railway construction, for which aluminum has shown great adaptability in its pure state, it is safe to predict that the demand for aluminum, which is now in excess of the supply, will be very largely increased. Aluminum, on account of lightness of weight, will be cheaper for use, and by reason of its firmness, durability and non-corrosiveness, will largely supplant many of the other metals. This will produce great wealth in the aluminum industry.

THE United States Government has declared that its purpose with reference to the Philippine Islands is to maintain there an "open door" for the commerce of the world. Mr. Frank D. Pavey, in an article in the November number of the North American Review, inquires whether that purpose can be carried out without a violation of the Constitution, and in the light of executive and judicial decisions he answers this question in the negative. Mr. Pavey states the limitations under which Congress and the Administration must deal with the proposition to keep an "open door" in the Philippines:

LAUNCH OF THE SAN JUAN.

The steamer San Juan, which was successfully launched on Saturday last from the Harland & Hollingsworth Co.'s yards at Wilmington, Del., for the New York & Porto Rico S. S. Co., of New York, is a sister ship to the Ponce, which so successfully made her maiden trip this month. She is designed to carry the maximum amount of freight on the smallest coal capacity and is of the following dimensions:

Length over all.....	335' 0"
Length between perpendiculars.....	317' 0"
Length on water line.....	322' 0"
Beam molded.....	42' 0"
Depth at center to main deck.....	19' 10"
Depth to spar deck.....	27' 8"
Depth at side to spar deck.....	26' 9 1/2"
Depth to main deck at side, molded.....	19' 0"
Draft loaded.....	19' 0"
Gross tonnage.....	3503
Net tonnage.....	2819

Her engines are direct tri-compound with inverted cylinders 24", 38", 62" by 42" stroke. Steam is supplied by two Scotch type boilers 14' 6" diameter, 11' long, fed by six furnaces 48" diameter built to stand a pressure of 180 lbs. She has six water-tight bulkheads, four hatches, four winches, Hyde steam capstan, Hyde capstan aft, two steel masts, electric light plant for 250 electric lights, five ton evaporator, five tanks of 8,000 gallons capacity, bunker capacity 350 tons, carrying capacity about 3,500 tons. Accommodations for 72 first-class and 20 second-class, and built to sustain a speed of 12 knots an hour. She is tastefully fitted out with hardwood and has every modern convenience.

The San Juan is the eighth ship launched by the Harland & Hollingsworth Co. in the past year, and they have now in their yards the torpedo boat destroyer Stringham, which is having her builders' trial, and while not speeded, has far exceeded all expectations in her trial runs.

Two 29-knot torpedo boat destroyers for the U. S. Navy, the Hull and Hopkins, will be completed sometime during next year.

Two cargo steamers for the New York & Baltimore Transportation line which are now in frame, will be launched before long.

Steamer Grecian, for the Boston & Philadelphia Steamboat Co., will probably be launched next month.

A steamer for the Metropolitan Steamship Co., of New York, to be delivered in the early spring.

Immediately after the San Juan was launched, there will be laid down the keels for three tugs to be built to the order of the Pennsylvania Railroad Co.

This, together with much car work and five ships undergoing repairs in the dry dock, and along the wharves, not only presents a very busy appearance, but keeps a large number of men employed and gives considerable trade to the numerous industries concerned in shipbuilding.

DEPARTURE OF A PHILANTHROPIST.

It is with deep regret we announce the death of Mr. Wm. H. Webb, the millionaire shipbuilder and unassuming philanthropist, one who was beloved by the whole maritime community. He died at his home in New York a week ago last Monday, at the age of 83 years, the general announcement of which has appeared in several journals. In 1894 Mr. Webb built a home for impecunious shipbuilders at Fordham Heights, New York, at a cost of \$500,000 and endowed it with \$2,000,000. It was his desire that the institution should afford free relief and support to the aged, indigent or unfortunate men who have been engaged in building hulls of vessels, or marine engines for such, in any section of the United States, together with the lawful wives or widows of such persons, and also to furnish to any young man, a native citizen of the United States, who may upon examination prove himself competent, of good character, and worthy of a gratuitous education in the art, science and profession of shipbuilding and marine engine building, both theoretical and practical, together with board, lodging and necessary implements and material while obtaining such education.

IN his recent lecture upon "Life on Board a Man-of-War," before the Lafayette Avenue Presbyterian Church in Brooklyn, N. Y., Com. A. V. Wadhams, U. S. Navy, gave an account of the development of the American Navy—how, before the Civil War, the United States had ranked fifth in the navies of the world and how, at the end of this war she was first, with 51,000 men. Then came the period of decline, when no attention was given to the Navy, until, in 1883, when the Navy began to recuperate, it ranked 19th.

TO IMPROVE AMERICAN SHIPPING.

There are, of course, various views regarding the upbuilding of the shipping interests of the United States in so far as the over-sea tonnage is concerned.

Mr. R. P. Joy, of Detroit, has also his ideas relative to the re-habilitation of the United States mercantile marine and writes to a local newspaper as follows:

The condition that confronts us is this: The people of the United States are now paying to foreigners the enormous sum of \$250,000,000 annually for the transportation of passengers and freight in over-sea trade.

You acknowledge this fact, but state that as foreigners do the business cheaply and well, there is no reason why we should make any effort to regain this trade or any part of this vast sum. In fact, you would prefer to let things remain as they are. On the other hand, I believe that some method should be devised whereby the people of the United States could regain at least a large part of this trade, and thus keep the money that is now paid to foreigners for transportation, in American pockets.

Our over-sea shipping is now in the last stage of decay. During the past year only 8 per cent. of our imports and exports were carried in American vessels. If our shipping could be instilled with new life by government aid, I would be strongly in favor of this form of protection until this industry could stand alone and battle for itself.

In order to fully understand this question a short review of the history of the American merchant marine is necessary. One of the acts of the first Congress under Washington's administration was to put into effect a system of discriminating duties favorable to American vessels, i. e., goods imported in American ships were permitted to enter this country under a 10 per cent. less duty than goods imported in foreign vessels. This policy stimulated the upbuilding of the merchant marine to such an extent that the revenues of the government were seriously affected. The act was then changed so that goods imported in American vessels paid the regular duty, while goods imported in foreign vessels were compelled to pay 10 per cent. higher duty. Thus two objects were achieved at one time, the revenues of the government were increased and the building of ships in this country went on in an unprecedented manner. Shortly after that time 90 per cent. of our imports and exports were carried in American vessels.

In the treaty with England, signed at the close of war of 1812, we agreed to discontinue the system of discriminating duties then in force. However, for many years after that time, American ships sailed the seas as a stimulus of the system of discriminating duties lasted long after the protection was withdrawn. Shipyards had taken a firm root on American soil, and as timber was plenty, we could still build ships as cheaply as could foreigners.

American sailing ships in those days were models of grace and beauty, and on account of their superior sailing qualities and quick voyages, were sought after by shippers in all lands, and the fame of our shipbuilders was spread far and wide, in fact, orders for ships from abroad were placed with American shipbuilders.

The vacillating policy of the United States in regard to the merchant marine is seen in the history of the famous Collins line, the first American trans-Atlantic steamship line. This line was called into existence by a mail subsidy granted by the United States government. Mr. Collins built the finest and swiftest steamers then crossing the Atlantic and successfully operated the line until the British government doubled the subsidy of the Cunard line. Collin's competitor. Shortly after that the United States government withdrew the subsidy to the Collins line, and England's subsidized steamers drove the American line off the sea.

During the war of the rebellion, several confederate cruisers were built in England, the Alabama and her class, and these vessels were turned loose upon American shipping, capturing and destroying thousands of tons of our shipping, and forcing American shipowners to sell most of their remaining vessels abroad, as they did not dare to sell them under the flag of the United States for fear of capture, or did not wish to permit them to rot at the wharves.

From this wholesale slaughter our merchant marine never recovered, and as the change from wood to iron ships was soon felt, England on account of cheap iron construction and her subsidy policy retained her mastery on the sea. The advantage of cheap construction Britain still has to a small extent; however, the conditions are becoming more nearly equal, and we can now build ships almost as cheaply as they can in England.

From the foregoing you will see that while England has pursued a certain fixed policy in regard to her merchant marine, the United States has first encouraged and then withdrawn its support from this important industry.

By encouraging the great steamship lines with subsidies England has built up her shipyards so that the building of tramp steamers is but child's play compared with the construction of the great trans-Atlantic liners. These tramp ships are built in great numbers, and largely carry the freight traffic of the world, and on account of cheap construction and low operating expenses Americans have been unable to compete with them on the sea until the present time; however, the conditions are now not so strongly against us. Only last year the Bath Iron Works launched the first American tramp steamship, the Winifred, and others are now being built. Thus American capital is slowly turning to the sea for investment.

I have always argued in favor of a return to the system of discriminating duties to which the United States owes its start in the world's carrying trade. The great objection

raised against this system is that the United States, by treaties with foreign powers, has given up the right to legislate in this manner in behalf of American over-sea shipping. It would be necessary to abrogate this clause (agreeing not to discriminate in favor of American vessels) in some 20 or more treaties. This our statesmen fear to do, on account of the danger of retaliation, preferring to remain in a dependent state rather than assert our rights. The only other method to encourage our shipping left to us is to adopt the subsidy and bounty policy as have foreign nations.

England pays at present nearly \$6,000,000 annually to British shipping; Germany nearly \$2,000,000 to shipping; France pays over \$7,000,000; Italy, \$2,100,000; Russia, \$1,200,000; Japan, \$3,500,000, and several smaller nations lesser sums.

The United States Government paid to American vessels for transporting ocean mails a little over \$1,000,000 during the last year; however, this mail subsidy is entirely inadequate, and but few vessels have been built to operate under its provisions. Among the ships that were called into existence by this law are the St. Louis and St. Paul, which did such good service in the recent Spanish war.

Would it be of any advantage to the United States to re-establish the merchant marine? Would it be wise to pay a bounty to shipowners from the general tax fund? Let us see. First, the building of ships would be encouraged in this country, labor would be in great demand, and the allied trades, which depend on shipbuilding, would be vastly benefited. When our vessels obtained a foothold on the seas in competition with foreign ships, rates of transportation would come down, which would benefit shippers. A large part of the \$250,000,000 now paid to foreigners would be saved to the people of the United States, thus returning many times over to Americans the bounty paid out.

Only a season of great prosperity could result from such a policy, and it would require but a slight stimulus to encourage capital to engage in this most important industry.

In your editorial you state that American capital would not be content with a paltry 3 or 4 per cent. I can point out numerous instances where American capital is now content with this low rate of interest, among them government bonds and the securities of all first class railroads, netting the investor even a less return.

Another most important point to the nation would be that in case of war we would have both ships and seamen as a bulwark of defense.

You say "How can the nation at large benefit by a policy which would not put a dollar into the pockets of any of the individuals that compose it?" I would say in reply to this that if American vessels carried over-sea freight and passengers, and the money was paid to American companies, that the money would find its way back into circulation in the United States. Would this not be a benefit?

I am not in favor of passively submitting to conditions as they are when it is possible for us to reach out and obtain the trade at a comparatively small cost to the nation, compared to the vast benefits we would receive. I favor progress in national affairs. Let us assert our rights.

We should encourage American shipping as a national policy and reap the benefits as a nation.

From our best standpoint Mr. Joy presents this matter in the clearest possible light; however, as we have said, there are various views regarding the best methods of upbuilding the mercantile marine tonnage of the United States.

VISIBLE SUPPLY OF GRAIN

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo.....	1,344,000	803,000	611,000	141,000	888,000
Chicago.....	11,700,000	3,344,000	1,278,000	398,000	59,000
Detroit.....	795,000	99,000	1,000	6,000	12,000
Duluth.....	7,771,000	50,000	80,000	160,000	398,000
Fort William, Ont..	1,557,000				
Milwaukee.....	155,000	2,000	2,000	2,000	11,000
Port Arthur, Ont..	60,000				
Toledo.....	2,148,000	1,058,000	585,000	9,000	
Toronto.....	51,000		5,000		23,000
On Canal.....	58,000	301,000	12,000	8,000	456,000
On Lakes.....	1,718,000	1,538,000	543,000	76,000	904,000
Grand Total.....	51,001,000	12,832,000	6,963,000	1,127,000	3,358,000
Corresponding Date, 1898.....	17,000,000	23,797,000	5,976,000	970,000	3,192,000
Increase.....	1,440,000		50,000	34,000	482,000
Decrease.....		884,000			

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

We have several times had occasion to observe that American salvage companies—or wrecking companies as they call them on the other side—are in the habit of setting no small value on their services. The well-known firm of Merritt is no exception to this rule. A few months ago the British ship Hartfield, whilst on a voyage from Carrizal to Philadelphia, with manganese ore, took the ground at False Cape. She remained fast for twelve hours, when she was floated by one of Merritt's tugs. The company have, we understand, put in a claim for \$10,000 for salvage, which strikes us as a rather steep amount for underwriters to have to pay.—The Syren and Shipping London.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD).

Maritime Liens—Jurisdiction.—A contract for repairs to a vessel, made at her home port, is maritime in its nature, and proceedings in rem for the enforcement of a lien given for its security by a state statute cannot be instituted before state tribunals. State (Hankins, Prosecutor) vs. Cox & Sons Co. et al., 44 At. Rep. (N. J.) 206.

Master and Servant—Injury to Seaman—Liability of Ship.—A seaman cannot recover damages from the ship for an injury received while obeying an order which is shown to have been a proper and usual one under the circumstances, and when the service required did not involve unusual risk. The Pegasus, 96 Fed. Rep. (U. S.) 623.

Shipping—Libel for Breach of Charter.—The master of a British vessel, under a time charter expiring April 26, 1898, by instruction of the owner, refused to load a cargo at Philadelphia for Matanzas, Cuba, on the ground that the voyage could not be made before the expiration of the charter. Before the vessel could have been loaded war was declared between the United States and Spain, the port of Matanzas was blockaded, and the vessel would not have been cleared for that port. Held, that, inasmuch as no actual damage was sustained by the charterer, a libel against the vessel for breach of the charter would not lie, and the ground on which the master's refusal to load was based became immaterial. The Willowdene, 96 Fed. Rep. (U. S.) 569.

Torts of Master—Liability of Owners.—The master of two whaling ships, together with natives living on shore, took from an ice-bound vessel, without the consent of those in charge, certain provisions, which were divided between the ships, and also whaling gear, and other articles, which were kept by the natives. Held, that the owners of one of the ships could only be held liable for the value of such of the stores taken as were applied to the use and benefit of their vessel, and which it would have been within the scope of the master's employment to procure. The fact that the master consented to the taking of the other property by the natives cannot render his principals liable therefor. Guttner et al vs. Pacific Steam Whaling Co., 96 Fed. Rep. (U. S.) 617.

Shipping—Conversion of Ship's Stores—Possession Which Will Support Action.—Seaman who remained on board an ice-bound vessel after she had been abandoned by the masters and others of the crew, were lawfully in possession of the stores and other property on board belonging to the owners, and may maintain trespass, therefor, against the owners of another vessels, which took such stores and property off the vessel without their consent. The taking of such stores was none the less trespass because no resistance was offered, and no force used, where it was without the consent of those in possession; nor is it any defense to the action that they were taken to preserve the lives of the crew of the vessel taking them. Guttner et al vs. Pacific Steam Whaling Co., 96 Fed. Rep. (U. S.) 617.

RECORD OF AMERICAN AND FOREIGN SHIPPING.

The 32d volume of the Record of American and Foreign Shipping for 1900, published by the American Bureau of Shipping, New York, will be ready for delivery to subscribers about Dec. 20, 1899, and will contain:

Reports and particulars of about 17,000 vessels engaged in the American, inland and foreign trade.

Rules for the construction of iron, steel and wooden vessels.

Rules for the construction of steam machinery for vessels. Suggestions and recommendations governing the installation of electric lighting and power apparatus on ship-board.

Names and location in the United States of shipbuilders, and of constructors of marine machinery and boilers for vessels, and of dry docks and marine railways, with capacity of same.

A list of representatives of marine underwriters throughout the world, and other valuable information of special importance to underwriters and all firms or individuals interested in shipping.

This work has the official approval of underwriters, and is universally recognized as a standard classification and register of shipping.

MARINE PATENTS.

Patents on marine inventions issued Oct. 31, 1899. Reported specially for the MARINE RECORD. Complete copies of patents furnished at the rate of ten cents each.

635,798. Hydraulic dredge. B. H. Muehle, Detroit, Michigan.

635,843. Paddle-wheel. Calvin Chamberlain, Foxcroft, Maine.

635,871. Vessel propulsion. John and H. W. Ritchie, Chicago, Ill.

635,890. Dredging machine. S. A. Hill, Atlantic City, N. J.

635,899. Screw-propeller. L. T. Roberts, Toledo, Ohio.

635,906. Dock construction. J. T. Wilson, New York, N. Y.

635,938. Means for cleaning hulls. David Mason, New York, N. Y.

635,939. Means for repairing vessels while afloat. David Mason, New York, N. Y.



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CLEVELAND, O., NOVEMBER 9, 1899.

CONGRESS will meet in less than a month from to-day, or more strictly speaking, on the last Monday in November. The marine interests see enough legislation ahead to feel a deep interest in the proceedings of both houses, Senate and Representative.

THE abrogation or temporary suspension of the Canadian coasting laws, whereby United States vessels can enter the lake trade between Canadian ports, is all right for our tonnage, but it must undoubtedly be a bitter pill for the "Canuck" vessel owner to swallow.

THE thanks of the RECORD are due the Hon. E. T. Chamberlain, Commissioner of Navigation, for a copy of the 31st annual list of merchant vessels of the United States with which is included a list of the vessels of the navy and the several departments of the government.

It was questioned in the earlier part of the season if 14,000,000 tons of ore could possibly be carried in lake bottoms? The indications are now that about 17,000,000 tons will be the record of the season's transportation with a possible 20,000,000 tons for next year. Iron ore is king.

ONLY a few years ago there was only one shipyard capable of constructing high-classed large naval tonnage. The bids opened by the Navy Department last week for ten new cruisers showed fourteen competitors and there are as many more shipyards that could, if they would, put the vessels together.

THE sum of \$260,000 was appropriated by the last Congress to defray the cost of a gunboat, to take the place of the Michigan, on the lakes. It now appears that this vessel will be built "as soon as permitted under treaty," which we suppose means, that, as the specifications for the new boat calls for a larger craft than that stipulated for in the international agreement, it is necessary to have the consent of Great Britain before beginning her construction.

COUNT VON ZEPPELIN is the inventor of an airship which is about to be tried at Friedrichshafer, near Lake Constance, Switzerland. The flight will be over the lake, and fast steamers will follow the airship to receive its occupants in case of accident. Maj. Baden-Powell, brother of the colonel now in South Africa describes the big machine. An aluminum frame work, like the skeleton of a battleship, is filled with balloons of the same metal. Its lifting power is estimated at 10 tons. It has cost about \$350,000. The motive power will consist of four propellers driven by Daimler gasoline motors, and the expected rate of speed is 22 miles an hour. The body of the ship cylindrical, about 200 feet long, 40 feet in diameter, and there is a steering apparatus at each end.

THE LINK TO THE SEABOARD.

There is now no question but that the Dominion of Canada is in possession of the waterway which forms the best link to the seaboard. The Erie canal with its fathom of water and continual breaks, thus stopping commerce, has become antiquated, and, as an outlet must be had, traffic will follow the most convenient and best facilitated paths, which, as we have said, is through Canadian territory.

The Dominion government has perfected, at great expense, a fourteen foot waterway to the coast, and while no extra traffic has as yet developed, it is a fact that the organization of a syndicate of Buffalo capitalists, to build and equip a fleet of vessels for the St. Lawrence trade, has created considerable alarm among those interested in maintaining traffic by the Erie canal. Buffalo newspapers express considerable apprehension regarding the loss of the grain traffic now reaching the seaboard by the Erie, and they freely admit that the men connected with the St. Lawrence enterprise are in a position to handle the business and side-track their own city. The enormous elevator business of Buffalo is threatened, and those most nearly interested are freely discussing the possibility of a large portion of the grain trade being diverted to Port Colborne and Montreal. The Buffalo syndicate is already in negotiation with the Dominion government, in fact they have been for some time past, and they are prepared to invest \$3,000,000 in the erection of elevators, and to build and equip a fleet of vessels for the transportation of grain and other freight.

The recent unfortunate attempt to improve the Erie canal is no reason why a more successful effort should not be made and the outlet formed so as to equal the facilities offered by the Dominion of Canada, otherwise it is more than probable that Buffalo, and consequently New York city, will lose considerable traffic next season, and keep on losing until it will be too late to recover any portion of it.

AN INTERNATIONAL QUESTION.

The opening of the Chicago drainage canal is to take place next month, unless the plans of the engineers miscarry. As soon as it is opened the waters of Lake Michigan will find their way to the sea by two widely divergent routes, one by the natural outlet through the Great Lakes and the St. Lawrence River to the North Atlantic, and the other through an artificial channel connecting the lake by way of the Illinois River with the Mississippi and the waters of the Gulf. The canal is 22 feet in depth, and varies from 162 to 202 feet in width. It is 35 miles in length. Such a canal will require an immense volume of water to feed it, and its opening will undoubtedly cause an appreciable diminution of the waters of the Great Lake system. While it will not affect Lake Ontario, it is generally believed that the diversion of so large a volume of water will lower the level of Lakes Erie and Huron, and thereby interfere with shipping. The matter is of no little importance to this country. We trust that the government will look after the interests of Canada in the matter. Canada is jointly interested with the United States in the Great Lake system. We take it that the latter has no legal or international right to interfere with the system in any way that will work to the detriment of this country.—The Toronto World.

A CANADIAN SHIP BUILDING INDUSTRY.

A communication sent from Collingwood, Ont., to the RECORD says that J. J. Long, President of the Collingwood Dry Dock Co. has about completed arrangements for establishing at Collingwood a modern shipbuilding plant of very large proportions, at first capable of building four full canal-sized ships at once, or, if necessary, to build a 500-foot steamer. The machine tools and entire equipment will be capable of turning out any steel ship that will be required in lake or canal trade. Arrangements for all this have been quietly going on for several months, and lately, Capt. Alex. McDougall, of Duluth, formerly general manager of the American Steel Barge Co., has decided to become a large stockholder and director in the company, and is at present helping the other directors to select machinery, machine tools, superintendents, foremen and men to properly start the enterprise. It is expected to have the works in full operation in four or five months, and so that the first steel ship can be launched by the middle of next summer. Some special arrangements have been made in regard to the ship plate and material which cannot be explained at present. The Collingwood dry dock and grounds will be turned over to the new company, who will enlarge and rebuild the present dry dock up to the full requirements of trade.

LAKE FREIGHTS.

The freight market has fairly slumped this week, and yet there was no apparent reason for it. Ore rates which have stood at \$1.85 from the head of Lake Superior, dropped to \$1.25. This brought the other figures down. Marquette, which has been \$1.60, dropped to \$1.15, and the Escanaba rate, which has held at \$1.35, went back to \$1 flat. It seems strange that ore freights from the head of the lakes should, at this time of the season, drop from \$2 to the above figure, but, it is partly accounted for, by the release of a good deal of tonnage chartered only to November, also a lack of railroad cars to handle either ore, grain or coal.

Grain cargoes are away off to 2½ cents from Chicago, and 3½ cents from Duluth with very slow chartering and vessels detained in discharging on account of a lack of cars.

Coal charters are fairly brisk at the lower figures from Ohio ports of 50 cents to the head of the lakes; 70 cents, Fort William or Escanaba; and 80 cents, Chicago or Milwaukee. It is now expected that a shortage of 300,000 tons will be the condition at the head of the lakes when navigation closes.

A SCARCITY OF SEAMEN.

It is learned that the battleship Texas, now at the Norfolk Navy Yard, and also the Indiana may be placed out of commission. The reason is stated to be that their crews are needed to replace men aboard those vessels at Manila whose time has expired. The department finds it impossible to secure men to man the ships because of the decline in enlistment. That so few enlist is attributed to the disinclination of seamen to enlist for the four years' term required by the regulations at present in effect, and also to the dislike of the men for the commissary mess system recently introduced. Under this latter system the men claim that they are not well fed and that the allowance of \$9 a month each received as mess money does not now suffice to provide them with suitable food cooked to their liking, as it did formerly when messes of about 20 men each was the rule. The seamen object, they say, to the long term and short ration arrangement, and not to service in Manila or anywhere else where fighting is going on. The recently announced suspension of work upon certain vessels is believed to be due not so much to lack of money as to the lack of men to man them when their repairs shall have been completed.

THE COLWELL LOST.

The lake built steamer George L. Colwell, Captain Gaskill, from Fernandina, Fla., for New York, foundered on the passage and the captain was the only one saved.

The Colwell was built at Bay City, Mich. in 1880. She registered 371 tons net and was 154.2 feet long, 30.7 beam and 10.9 feet deep. She was owned by the Yellow Pine Company of Philadelphia and carried lumber from Southern ports to New York. It is believed that twelve hands were lost.

The Colwell left the Great Lakes in 1897 with a number of other lake boats which were chartered for the Atlantic coasting trade.

THE conversion of old steamers into sailing ships, tow barges, store ships or lighters has been common enough during the past few decades, but it is a rather unusual occurrence to convert tow barges into steamers and the experiment may prove anything but a satisfactory one in the long run. A Cleveland owner put machinery into a large steel tow barge last winter and now the Bessemer Steamship Co. (Rockefeller's fleet) is to have two steel tow barges fitted with machinery by the American Ship Building Co. It is only a question of financial outlay in making any possible change, but, as we have said, it seems to be reversing the order of things to make steamers out of the ordinary scow-like built steel tow barges. In the most recent instance, the tow barges are only under construction as yet, so that it will simply mean a revision of the plans, new stern posts, extra strengthening, etc., but as we have said, the conversion of tow barges into steamers is, on general principles, a good deal like taking a step backward, a forward retrogression, as it were.

THE longest steamer route given on the hydrographic office map is that connecting New York and Esquimaux by way of Cape Horn—16,290 miles. This is exceeded by the track used by sailing vessels connecting New York and Yokohama, via the Cape of Good Hope. This is 16,900 miles in length.

SHIPPING SEAMEN.

The laws regarding the shipping of seamen at ports in the United States very nearly conform with those of the United Kingdom, and in this connection we reproduce the following from the Shipping World, London:

"The engagement of seamen, by Section 111 of the Merchant Shipping Act, 1894, provides that: (1) 'A person shall not engage or supply a seaman or apprentice to be entered on board any ship in the United Kingdom unless that person holds a license from the Board of Trade for the purpose, or is the owner, or master, or mate of the ship, or is bona fide the servant and in the constant employment of the owner, or is a superintendent. (2) A person shall not employ for the purpose of engaging or supplying a seaman or apprentice to be entered on board any ship in the United Kingdom any person, unless that person either holds a license from the Board of Trade for the purpose, or is the owner or master or mate of the ship, or is bona fide the servant and in the constant employment of the owner, or is a superintendent. (3) A person shall not receive or accept to be entered on board any ship any seaman or apprentice, if that person knows that the seaman or apprentice has been engaged or supplied in contravention of this section.' In this case informations were preferred against the shore manager of a steamship company for illegally engaging two men as part of the crew of the vessel. On behalf of the prosecution, it was alleged that the two men in question were mere dock laborers, and had been brought from Hull to Liverpool, where the defendant met and took charge of them, and directed them on board a tender, whence they were taken on board one of the company's steamships and shipped as seamen, and it was contended that the object of the statute was not only to protect seamen from crimps, but also to secure that only persons qualified as seamen should be sent to sea. The two men gave evidence that they were dock laborers and not seamen. The magistrate thereupon dismissed the summons, holding that the Act did not apply to persons who were not seamen or apprentices, and allowed costs. Looking at the legal aspect of this decision, many will regret that notice of appeal does not appear to have been given. We assume that the two men were not rated as A.B.'s, for four years' sea service is necessary to entitle to this rating. For the rating of firemen, or trimmers, or general servants, no previous sea service is necessary. It would appear from the decision that a man rated in any of the latter capacities going to sea for the first time could not be deemed a seaman. But surely these two dock laborers after engagement were entitled to be designated seamen, since the Merchant Shipping Act (Section 742) defines 'a seaman' as including 'every person (except masters, pilots, and apprentices duly indentured or registered) employed or engaged in any capacity on board any ship.' It is therefore quite clear that once engaged on the articles of agreement, every person, with the exceptions set out in the section, is 'a seaman' within the meaning of the law, whatever his previous occupation may have been."

The question of the rightful shipping of seamen has been brought up on the lakes several times this season, and it would be well if the Lake Carriers' Association would take this matter up directly with the Secretary of the Treasury, through the Commissioner of Navigation, so that no future complications like the foregoing may, or could possibly occur.

LETTERS AT DETROIT MARINE POST OFFICE.

NOVEMBER 8th, 1899.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Awalt, Frank, Str. J. Owen	McGowan, Elizabeth
Beldin, Wm.	McMichael, Jas., Str. Armour
Burdie, Mrs. W., Str. Thomas	Naden, Thomas
Brechtle, H. C.	Parkhurst, Mrs. A.
Brown, Richard	St. Helaire, Louis, Str. Re-
Butlin, Walter	public
Buchanan, Jas.	Schulz, Adolph, Str. Lacka-
Clark, Wm. R., Str. O. T. Flint	wanna
De Forest, Ray	Shipley, Harry Walton
Downs, Harry C., Str. Wathma	Shackett, Wm. T.
Daily, Edward, Str. Ramapo	Scott, John N.
Farley, Ted	Schinsky, Stub
Gorham, Louis, Bge. Tomsey	Swartout, Nelson D., Str.
Harris, James	Aragon
Hall, Robert	Sutherland, Miss Rena, Str.
Jackson, J. T.	Singapore
Le Roy, L. A., Blk. Rock	Trushel, Ed., Str. Nicholas
Millard, Capt. W. L., Str.	Thompson, Addie
Voges	White, Wm.
Maloney, John, 2, Str. Victory	Ward, Thos. H.
Moore, Fred, Str. Chisholm	Wilkinson, J. D.
Moore, C. O., Str. Salvor	Ward, John
McDougall, Lizzie	

The production of steaming coal in the colony of Natal, South Africa, has risen, according to a recent return, from 25,609 tons in 1889 to 387,811 tons in 1898. This represents a vast increase in the commercial value of that colony to Great Britain.

AN IMPROVED DREDGE.

A dredging machine has been invented in Russia that is regarded as likely to effect a revolution in methods of deepening harbors and waterways. Consul General Lincoln, of Antwerp, in a communication to the State Department at Washington, describes the machine.

The dredge is electrically self-propelling and controllable, the electric installation of each half consisting of a fore and aft triple-expansion engine. The propulsion of the dredge is accomplished entirely by screws driven by electric motors, all other movements being effected by the direct use of steam.

The fundamental idea in the installation of the electrical equipment, as indeed of all the machinery, has been that the directing mind in the operating room should have close at hand and always ready for instant use the means to start, stop or modify all the movements of the great machine. To this end the means of absolutely controlling the entire electrical apparatus is placed back of and to the right and left of the operator in the form of switches, rheostats, controllers and compensators. Consul General Lincoln says:

"All parts of the dredge were subjected to searching trials prior to the departure of the plant for St. Petersburg. One set of tests for one-half of the dredge was conducted at Drygoten, Belgium, on a testing ground provided by the Belgian government in a basin of about 40 acres. The other was conducted at Steendrop, on a bar in the river Scheldt about ten miles above Antwerp.

"Unofficial trial No. 1 at Drygoten was for the purpose of ascertaining the precision with which a given stratum could be taken, and it was found possible by raising and lowering the cutters to take a stratum of thickness up to seven feet. The dredge advanced at a speed proportioned to the depth of the cut, fast for a shallow excavation, more slowly for a deep one." Other trials were made with astonishing results.

NOTES.

With a capital of \$1,000,000 the Sub-Surface Torpedo Boat Co. was incorporated at Trenton, N. J., on Saturday. The purpose of the company is to construct submarine torpedo boats. The incorporation papers do not state where the works of the company will be located. The incorporators are Wm. McAdoo, former Assistant Secretary of the Navy; C. A. Burgher, Wm. Barbour, H. T. Toley, Chas. D. Halsey and Wm. Williams.

The custom house report at Conneaut, O., for October shows ore receipts to have been 346,740 tons, an increase over the same month last year of 159,500; ore receipts for the entire season to November 1, were 2,038,070 tons. Coal shipments for October were 5,370. Nine hundred tons of coke were also shipped. Conneaut is the Lake Erie port of the Carnegie interests and has a railroad direct to the furnaces at Pittsburg, also other facilities.

The Board of Engineers on the deep waterway project from the lakes to the coast is preparing material for a preliminary report which will present estimates on the work of damming the eastern end of Lake Erie, in order to maintain a continuous depth in the connecting waters between Lake Erie and Lake Huron. Some parts of the waterway have already been artificially deepened, but a strong westerly wind drives the water back and this feature is found to be the most difficult one to allow for. It is more than likely that the first set of works will call for others at various points so as to compensate for the surface action of winds.

The great practical result of the labors of the Peace Conference at The Hague has been the establishment of arbitration, as a means of settling disputes between civilized peoples, upon a firm basis of international understanding and agreement, not only as to the principle, but in considerable measure as to the details of procedure in individual cases. In the November number of the North American Review two of the most distinguished members of the Conference, F. de Martens and Seth Low, explain, from the points of view occupied by the nations which they represented respectively, Russia and the United States, the precise conclusions arrived at by the Conference, and the influences and considerations which determined the delegates in their adoption of the specific provision as to the international arbitration contained in the Convention finally signed by the plenipotentiaries of the several powers. M. de Martens has absolutely unrivalled qualifications for writing on this subject, as he has been several times chosen to arbitrate the disputes of civilized nations, and has received the complimentary title of "Lord Chief Justice of Christendom."

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—MICHIGAN.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., Nov. 8, 1899.

PRESQUE ISLE HARBOR RANGE REAR LIGHT STATION.—Notice is hereby given that the fixed white lens-lantern light at this station has been arranged to show into the bay to the westward of Presque Isle light. On entering the bay the light should be kept between the bearings S. by E. $\frac{3}{4}$ E. and S. E. $\frac{3}{4}$ S. till Presque Isle light bears N. E. by E. $\frac{1}{2}$ E., when good anchorage will be found in from 6 to 7 fathoms of water.

As the bottom is rocky it will not be advisable for large vessels to go in farther, but small craft can go with safety inside the anchorage indicated.

Bearings are true.

ERIE RANGE LIGHT STATION.

Notice is hereby given that a fixed white lens-lantern light, upon a temporary support, is about to be temporarily substituted for the sixth-order fixed white light on the inner end of the north pier at the entrance to Presque Bay (Erie harbor), while the structure from which the regular light is shown is moved off the range line to permit repairs to the pier.

The work of repair will probably require not more than ten days, and when completed the six-order light will be re-established in its former position without further notice.

By order of the Light-House Board,

FRANCIS J. HIGGINSON,
Rear Admiral, U. S. Navy, Chairman.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 9TH DIST.,
CHICAGO, Ill., Nov. 3rd., 1899.

KENOSHA PIERHEAD (FRONT) RANGE, WISCONSIN.—Notice is hereby given that the Kenosha Pierhead (front) range light at the entrance to the harbor of Kenosha, Wis., reported as having been carried away on November 2, 1899, was re-established November 4, 1899.

ST. JOSEPH HARBOR, MICHIGAN.—Notice is hereby given that the red can buoy at the entrance to the harbor of St. Joseph, Michigan, will be replaced by a spar buoy similarly painted, on or after November 29th, 1899.

POINT BETSEY LIGHT STATION, MICHIGAN.—Notice is hereby given that the tower and dwelling of the Point Betsey Light Station, Lake Michigan, have been painted white, roof of dwelling, red.

This notice affects the List of Lights and Fog-Signals, Northern Lakes and River, 1899, page 78, No. 402, and the List of Beacons and buoys, Northern Lakes and Rivers, 1899, page 112.

By order of the Light-House Board:

F. M. SYMONDS, Commander, U. S. N.,
Inspector 9th Light-House Dist.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting. The bearing may be taken when the Sun's center is on the horizon, rising or setting. The three elements which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
Nov. 9.....	E. 23° S.	= S. 6° E.	= E. S. E.
Nov. 13.....	E. 24° S.	= S. 5½° E.	= E. S. E. ¼ S.
Nov. 16.....	E. 26° S.	= S. 5½° E.	= E. S. E. ¾ S.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
Nov. 9.....	E. 24° S.	= S. 5½° E.	= E. S. E. ¼ S.
Nov. 13.....	E. 25° S.	= S. 5½° E.	= E. S. E. ¼ S.
Nov. 16.....	E. 27° S.	= S. 5½° E.	= E. S. E. ¾ S.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
Nov. 9.....	E. 24° S.	= S. 5½° E.	= E. S. E. ¼ S.
Nov. 13.....	E. 26° S.	= S. 5½° E.	= E. S. E. ¾ S.
Nov. 16.....	E. 28° S.	= S. 5½° E.	= E. S. E. ½ S.

LAKE SUPERIOR, LAT. 48° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
Nov. 9.....	E. 25° S.	= S. 5½° E.	= E. S. E. ¼ S.
Nov. 13.....	E. 27° S.	= S. 5½° E.	= E. S. E. ¾ S.
Nov. 16.....	E. 29° S.	= S. 5½° E.	= E. S. E. ¾ S.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

Chicago Nautical School

1513 Masonic Temple,
CHICAGO.

W. J. WILSON,
(Late Lieutenant U. S. Navy),
Principal.

A full and complete course of instruction in lake and ocean navigation. Also special branches taught those desiring to qualify themselves for better positions in the marine service. \$200 in prizes (Great Lakes Register) awarded annually to students. Students taught by correspondence. Students may begin at any time. Send for circular.

MARINE REPAIRING AT MANITOWOC, WIS.

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THE MARINE RECORD,
Third Floor, Western Reserve Building,
Cleveland.

VALUELESS SHIPBUILDING TESTS.

Regarding the recent yacht races in which the Shamrock failed to wrest the America cup from its holders, after the expenditure of hundreds of thousands of dollars, the only observable result shows that a sailing machine built in the United States succeeded on three separate occasions in going over a given course in a few minutes less time than a similar machine built in Great Britain. It is observable that neither the Columbia nor the Shamrock are of any value whatever from a utilitarian standpoint. Neither of them can ever be used for any useful purpose, not even for yachting, and the fact that one of them can, under certain circumstances, make a little better time than the other, cannot be utilized in any practical manner.

This mania for making records which have no value is criticized by a writer in The American Machinist who, writing just previous to the recent yacht races, said:

The international yacht races for the cup the America won a generation and a half ago are just about to come of, and I would have reason to be ashamed of myself if I was not considerably interested, not so much as to who wins as in the means by which the cup is to be held or regained. The designing and the construction of the racing machines and the manipulation of them are, in every detail, in the line of the mechanic's and the engineer's daily and constant occupation.

They embody completely the problem of the application of certain available forces to the accomplishment of a certain purpose. The thing about the whole affair that can be regarded only with dissatisfaction is that the races when finished will have demonstrated or accomplished nothing of any discoverable practical value. The yachts are worthless for pleasure, for the oyster business, or for anything else, and the success of the one or the other will help us not in the least toward the building of better boats for any service. We do not know everything yet about either the building or the sailing of boats in the lines of service where all such available knowledge is most desirable, but these yacht races apparently add nothing to our available knowledge.

Speed tests of all kinds, the writer says, offer great temptations to ignore practical conditions. Not content with learning the ordinary possibilities of the bicycle, we must suck a cyclist along behind a locomotive at a mile a minute; instead of inquiring how fast a steamboat may go while retaining its usefulness, we throw away all use and try to build boats that are all engine and nothing else. He thus sets the seal of his condemnation on the modern torpedo-boat, which he regards as a case in point:

I can not but think that our government, following the lead of other admiralities, is throwing away a lot of good money upon torpedo-boats and torpedo-boat destroyers. The other day I had the pleasure of seeing the completed engines for one of these boats, and also of looking over the hull, not yet launched. No one can realize how far the process of cutting down the weights upon these things has been carried except by a personal inspection. The engines are the perfection of workmanship in every detail, but they suggest also throughout weakness and unsafety, and when these engines break down on trial, as they usually do, and it is lucky if some of the men are not killed, neither the workmanship nor the material is the place to look for the fault. The hull was such as a sight of the engines would suggest. To call it an eggshell is inadequate. Here was a boat about 180 feet long, I think, to carry engines of 4,000 horse-power,

and the plating of the hull a trifle over 1-8 inch thick and not a double shell anywhere. The decks also were single, and a little over one sixteenth inch thick, and buckled under my feet as I walked, and everything in proportion. If anything touches this hull it must be crushed, and it can not take long to rust it through—and then where are we?

We may strain for fine points far beyond the line of profit. There are many things that it is easy enough to get excited about, and in which we try to beat all creation, but after we have done it we often find that it costs more than it comes to.

CHINESE COURTESY.

Wu Ting-Fang, the Chinese Ambassador at Washington, addressed the Commercial Congress at Philadelphia on the 19th ult. He commented on the firmer commercial relations existing between the Pacific coast and his own country, and said that the United States is now in a favorable position to increase her trade with China. The American commercial man, the Ambassador added, will always be welcomed by the Chinese. On the other hand, the Chinese are just waking up to the fact that it is to their advantage to foster commercial unity with the United States. The Ambassador, referring to the exclusion of Chinese from the Philippines by General Otis, condemned that act, not as contrary to international treaties, but as being suicidal on the part of the United States. His remarks were hailed with great applause. After this meeting the Ambassador was entertained at an impromptu reception.

EASTERN FREIGHTS.

There has been a fair amount of chartering for grain cargoes by steam during the week, but unfortunately at the expense of rates, which have continued to decline. The recent rather heavy list of arrivals has, however, been fairly well disposed of again, and freights for later fixtures should naturally show an advancing tendency, were it not for the handicap of the continued car famine, under which charterers are afraid to commit themselves for later periods. Cotton shipments in the Gulf and at the Atlantic ports have not yet shown any activity, and rates continue dull and depressed, the article moving in small parcels only. Business in other commodities is not very active either; the lack of rolling stock, now mainly devoted to domestic purposes, exercising a depressing influence on export trade generally.

Our market for sailing vessels remains in the same strong position as of late, but the business accomplished has been of a limited character. The only object of interest is furnished by the fixture of several vessels for case oil to the Far East at full rates, in some instances presenting an advance of one-half cent to one cent.

It recently became necessary to take a steamer from St. Petersburg, Russia, to the Caspian Sea. The vessel was the twin-screw steamer Meridian, which had been especially designed for service in those waters, but was of too great a draught for the channel of the route necessary to be followed, viz., the Marinski canal system and the Volga river. The feat was eventually accomplished by means of a system of pontoons secured to the vessel by chains carried underneath, and shored by wooden shores to the edges of the shell plating of the vessel. This buoyed the vessel up the required shallowness of draught, and the passage was successfully accomplished.

LITERARY NOTICES.

Harper & Bros. are to start an illustrated monthly, devoted to travel and adventure, to be called the Franklin Square Magazine.

One of the most disastrous and picturesque storms that ever visited the New England coast was "The Great November Storm of 1898." The full story of its far reaching effects and many incidents of stirring human interest has been written for the November Scribner's by Sylvester Baxter. The pictures by H. W. Ditzler, who was there at the time, are vivid realizations of some of the scenes along the shore.

"Pen and Pencil Sketches of Shipping" by R. T. Pritchett, the marine painter, which will shortly be issued by Edward Arnold, 37 Bedford street, Strand, London, may be considered a unique work, and one that will appeal to all lovers of the sea. Mr. Pritchett has enjoyed exceptional opportunities of cruising all over the world, including voyages in the famous Sunbeam, with Lord Brassy, to whom the volume is dedicated. Among the craft sketched will be found an immense variety of vessels, large and small, commencing with the Royal yacht Victoria and Albert, and ending with Malay proas at the Murray Island in the Antipodes. Great care has been taken to reproduce Mr. Pritchett's exquisite drawings with fidelity, and the descriptive letterpress is enriched with many a yarn from the author's world-wide experiences.

The Slide Valve Simply Explained. By W. J. Tenant. Revised and much enlarged by J. H. Kinealy, D. E. Spon & Chamberlain, 12 Cortlandt street, New York. 1899. Size, 5 by 5½. With 41 original illustrations. Cloth, \$1.00. This work is based on notes and diagrams which were prepared by the writer originally to help his railway students toward the attainment of clear general notions upon the important subject of the slide valve. Instead of using the complicated valve diagrams and formulæ, he has endeavored to simplify the matter by a system of cardboard diagrams in which the successive positions of valve and crank can be closely followed. All the different working conditions of valves and effects of alterations to the same are discussed. The book is nicely illustrated, and different styles of modern valves are shown and their action described.

Small Engines and Boilers. A manual of concise and specific directions for the construction of small engines and boilers of modern types, from 5 horse-power down to model sizes, for amateurs and others interested in such work, by Egbert P. Watson. D. Van Nostrand Co., 23 Murray and 17 Warren street, New York. 1899. Size, 5¾ by 8¾. Pages, 108. With 30 working dimensioned drawings. Cloth, \$1.25. This book is intended chiefly for amateurs and students, on the assumption that those who need a guide of this kind have some acquaintance with ordinary machine work. The plans of the different size engines and boilers are carefully drawn, and have correct dimensions, and are so designed that they may be built with a limited number of small tools and still be mechanical jobs. The work contains hints on lathe work, or vice work and finishing metals, which will be of service to those who have but a limited experience. The author lays particular stress on good workmanship in comparison with the tinker work which is too often employed in making working models. Several of the engines and boilers described are of sufficient size to drive a small boat or shop.

CORRESPONDENCE.

We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

THE LAKE LEVEL QUESTION.

UNITED STATES ENGINEER OFFICE,
PORTAGE LAKE SHIP CANALS,
HOUGHTON, MICH., November 5, 1899.

To the Editor of The Marine Record:

I notice in your issue of Oct. 12, 1899, on page 7, under Buffalo items, that you refer to the Montreal, Ottawa and Georgian Bay canal, promoted by Mr. McLeod Stewart, as follows: "This is one of the projects which the RECORD fears will tend to lower the general lake levels, etc." I have been favored with the different publications in regard to that route from Mr. McLeod Stewart, and having met the gentleman, have taken a considerable interest in that route, and hence was surprised to find the MARINE RECORD, a paper generally so well informed on marine matters, expressing any fear from that canal affecting lake levels when there would be lockages up to Lake Nipissing of over 60 feet. There would be more probability that this canal would bring water into Georgian Bay from the Mattawa river, a branch of the Ottawa, than that it would take any water out of Georgian Bay. The matter of lake levels can not be watched too closely at the present time, but it seems that this canal can be left out of the consideration.

Very respectfully,
G. A. MARR, Assist. Engineer.

RAISING THE LEVEL OF LAKE ERIE.

PELEE ISLAND, Lake Erie, Nov. 2, 1899.

To the Editor of The Marine Record:

In the varied reports of various bodies and associations which have been debated and resolved for or against the raising of the waters in Lake Erie, I have seen no mention of the effect of the winds on the waters of that lake. To those who live, like the writer, on the islands or near the shores of Lake Erie, at the head or foot of the same, this aspect is an object of daily observation, especially in the fall and spring. A difference of three to five feet is often noticed at the head of Lake Erie, within a period of twelve hours. I have frequently seen a change in the level of the lake from low to high water of as much as six feet within a few hours. No dam at Niagara could change this great natural phenomenon caused entirely by changes in the wind usually from southwest to northeast or vice versa. This, too, affects the depths at Limekiln Crossing, the point literally of greatest friction. Another point to be consid-

ered in this matter is the flooding of large tracts of land of low level, now redeemed, from the original marshes around the head of Lake Erie and its tributary streams. If the waters were raised these lands would again be flooded, and the general government would have to pay for the damage.

Now, perhaps, a compromise could be arrived at. As the Limekiln Crossing is the point of shallowest water, why not build the dam (if dam there is to be) below that point of, say, the foot of Bois Blanc Island, or if you will, at Bar Point?

It is true that by this plan the low-lying lands along the Detroit river would be affected, but these shores, as a rule, are fairly high, and certainly the area of damage would be very much less than if the whole waters of Lake Erie were raised!

It may be said, and with truth, that there is shoal water in the Pelee Passage, but that shoal water could be largely avoided if a light-house were put upon the middle ground in that passage, so that vessels could run close to it as a tower by day, and light at night, and thus avoid the shoals to the southward of the Dummy light.

F. B. McCORMICK,

THE NAVIGATION OF THE ST. LAWRENCE.

The Minister of Marine and Fisheries of the Dominion is bound to make the navigation of the Gulf of St. Lawrence fairly safe. He is stated as saying:

"We have just completed the construction of a large new light-house in the Straits of Belle Isle, and superseded the old bombs, which were used in the light-house on the island of Belle Isle as fog signals, by the most modern sirens. We have constructed at an enormous cost in one of the most dangerous parts of the river St. Lawrence a substructure on which to build a light-house, to take the place of the old and more or less obsolete lightships. Nothing has been left undone that I know of, and nothing will be left undone, to carry out thoroughly and efficiently improvements in this branch of the public service. We have also taken over the practical and personal supervision and control of the buoying and lighting of the river, which was formerly in the hands of contractors; and while, of course, we are not prepared to spend money recklessly, we are ready to spend it generously in order to make everything as it should be to the mercantile public."

It is possible that with this extra attention and government supervision, the St. Lawrence, from Anticosti to Quebec, may be made fairly navigable. The farther stretch to Montreal is also capable of improvements.

The Great Lakes Towing Co. have nearly systematized the workings of the consolidation, and better service at lower rates will prevail at the principal lake ports. The officers of the company are earnest in their efforts to facilitate in every way possible the handling of vessels in entering, loading and leaving port.

MORE LAKE SUPERIOR IRON ORE.

Mr. F. H. Clergue, of Sault Ste. Marie, Mich., the man who founded the great pulp industry at that place, has become the moving spirit in the organization of a \$20,000,000 iron and timber and transportation company. This is the Ontario-Lake Superior Co., which is being formed by the same capitalists who organized the Consolidated Lake Superior Co., with which concern it will be allied. The new company is to acquire the entire capital stock of the Algoma Commercial Co., and the Algoma Central railway. It will thus, it is stated, acquire title to some 2,000 square miles of timber and mineral lands adjacent to the Canadian lands of the Consolidated Lake Superior Co.

A railroad line is being built as part of the project (without the sale of bonds) and 40 miles is to be in operation next year, from Michipicoten harbor, on Lake Superior, to two hematite iron mines, one of which is the Helen mine, owned by the Consolidated Lake Superior Co. in the Michipicoten range. The plan is eventually to extend the road 120 miles to connect with the Canadian Pacific at or near Missanabie.

It is estimated that the company will handle during its first year 1,500,000 tons of ore for the Consolidated Lake Superior Company.

Of the \$20,000,000 capital \$6,000,000 is to be in 7 per cent. non-cumulative stock and \$14,000,000 in common stock. Stephenson Bros., of Philadelphia, are subscription agents. A first payment of \$10 is to be made in December, and \$10 every six months thereafter until the whole is paid. A bonus of 50c per cent. of full paid common stock will be delivered to subscribers when the first payment on the preferred is made.

Mr. James Conmee, who has charge of the construction work on the railway states that 2,000 men are at present employed in connection with the company's projects. Half a million tons of iron ore are ready for shipment at the Helen mine, and there are ten millions in sight.

PROF. T. C. MENDENHALL, widely known as chief of the United States coast and geodetic survey, ran the boundary line between Alaska and Canada, according to the stipulation of the treaty of 1821 between Russia and Great Britain. His line is the one claimed by the United States as the true boundary. Speaking of the proposition of Canada to give her Pyramid Harbor as a pre-requisite to arbitration of the boundary, Prof. Mendenhall declares that no concessions whatever should be made to Canada. His opinion will have much weight with the government. He is certainly the best posted man on this question in the United States.

In the November installment of his Century articles on his "single-handed" voyage around the world in his sloop Spray, Capt. Joshua Slocum describes a visit to the island of Juan Fernandez, where Alexander Selkirk passed five solitary years—an island which several times, of late years, has been reported as sunk.

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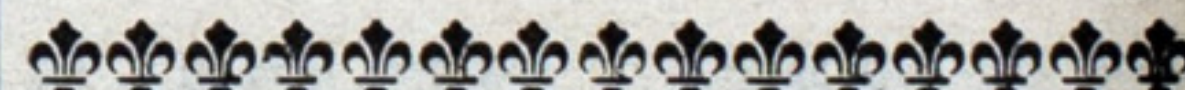
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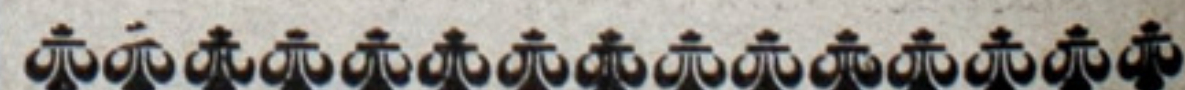
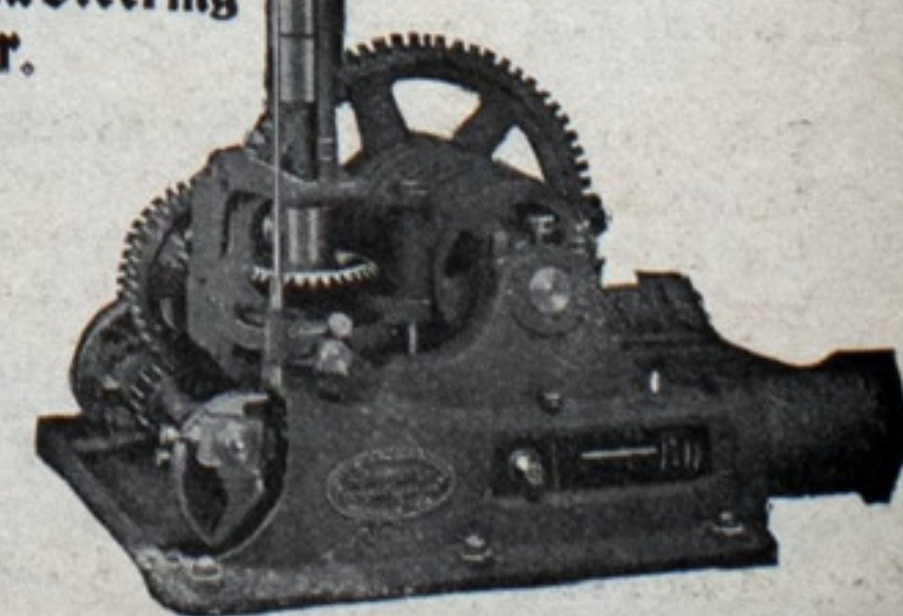
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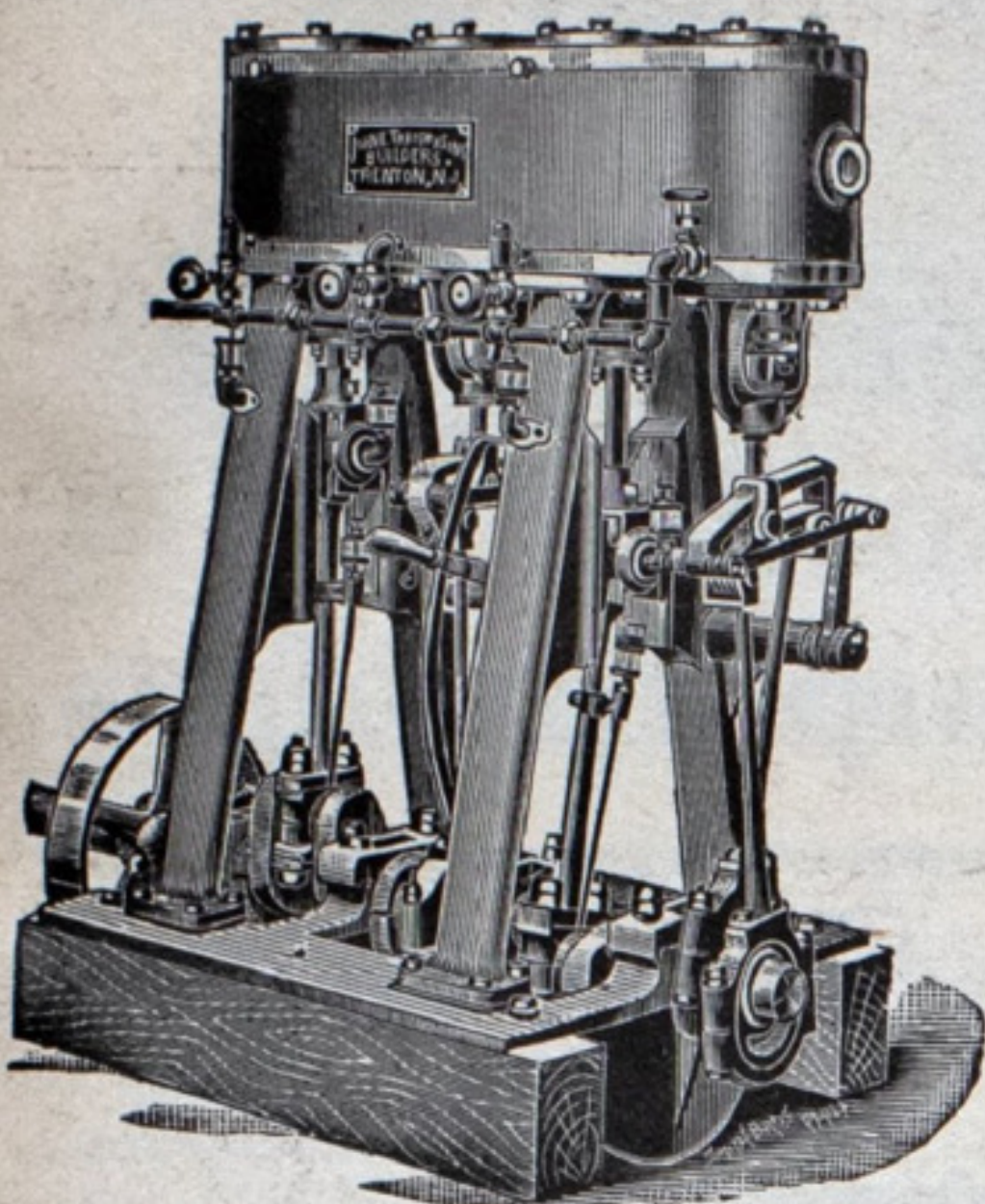
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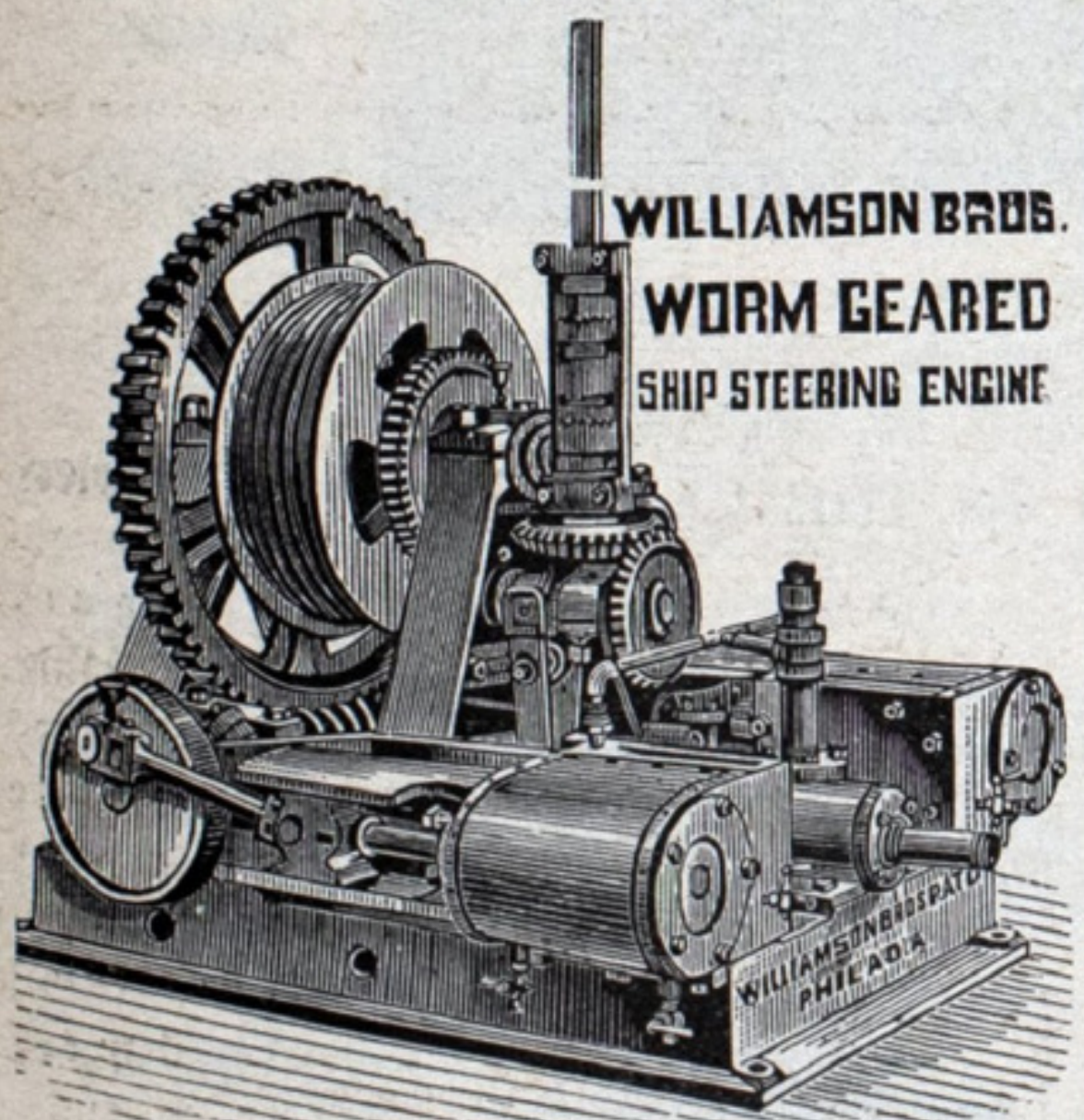
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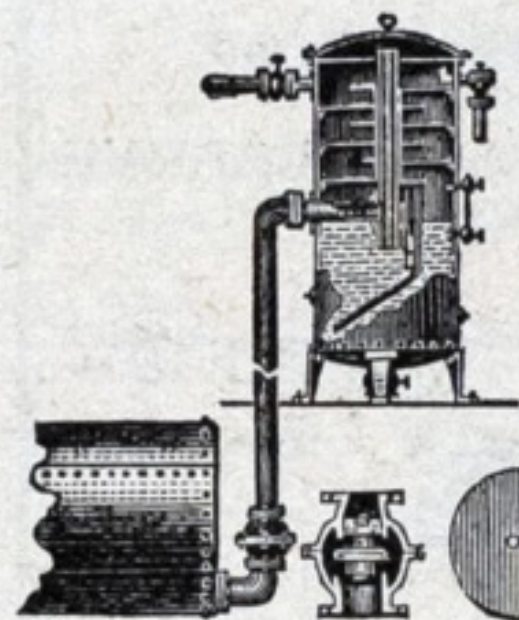
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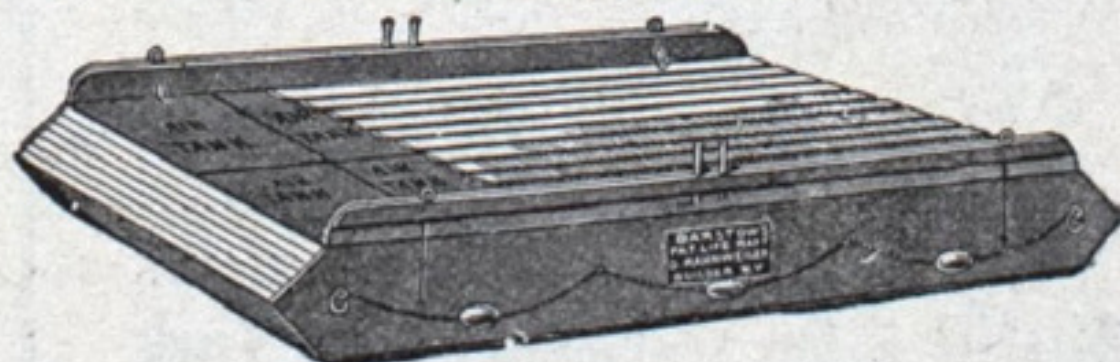
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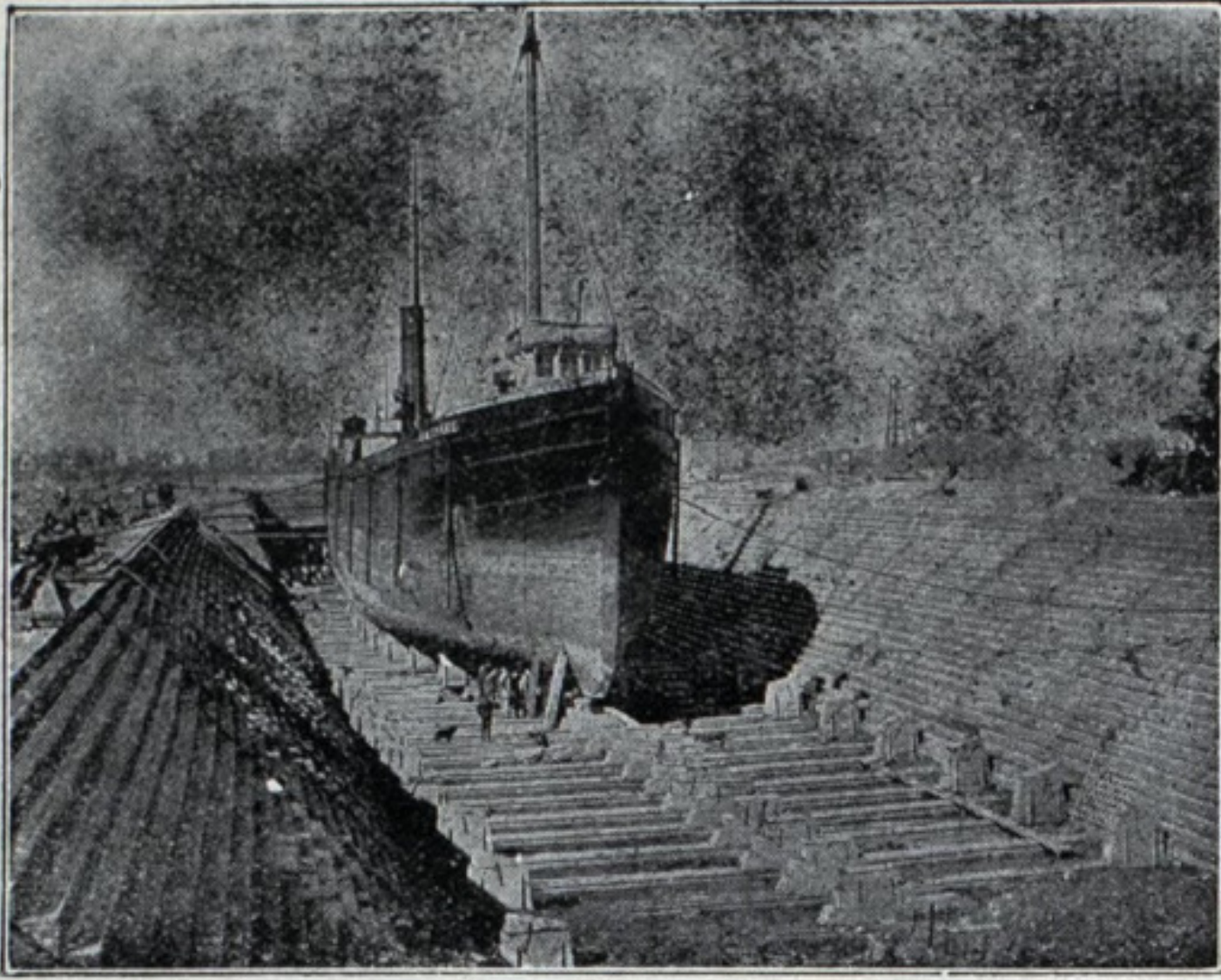


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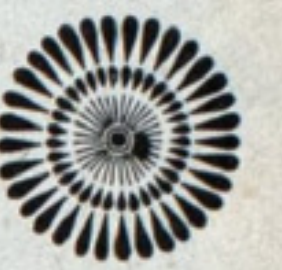
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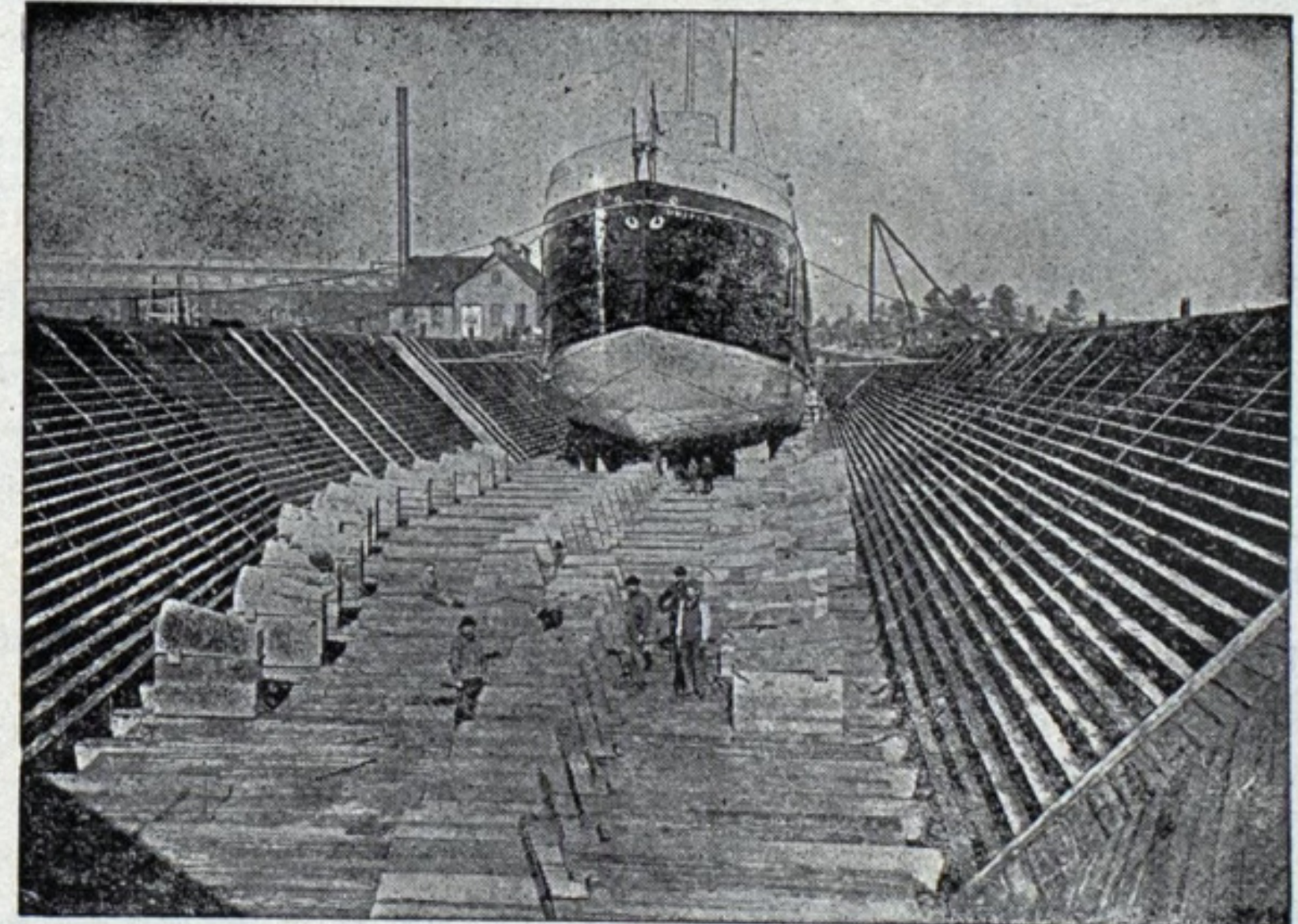
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